USE AND INSTRUCTION MANUAL

ECOS IRC ECOS YF IRC

Code no. SCE300R / SCE300H / SCE302R / SCE302H
Manual Ver. 2.0 - FW Ver. 5.X.X

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1.0 Introduction

The Oksys Fast Series Refrigerant Management System is Engineered for technician convenience, featuring an intuitive icon-based interface and an extensive vehicle database to streamline operations.

- **User-Friendly Design**: The system prioritizes ease of use, with clear visual icons and straightforward controls.
- **Accessible Oil Replacement**: Oil replacement is simple, thanks to an externally mounted compartment located on the front of the unit.

CPS is proud to offer automotive technician the latest advancements found in the Oksys fast series, building on years of industry innovation. We are confident you will appreciate the enhanced functionality and reliability of this equipment.

Important Safety and Usage Information.

- **Intended use:** This recycling and recharging unit is designed for commercial applications and should only be operated by trained personnel familiar with refrigerant principles and the potential risks associated with pressurized systems and low-boiling-point substances.
- **Manuals and Safety:** Carefully review the operations manuals and adhere strictly to all safety instructions provided. Special attention should be given to the outlined safety regulations.
- **Liability Disclaimer:** CPS is not responsible for damage resulting from improper use, operations outside the guidelines of the manual, incorrect handling or external factors.
- **Handling Precautions:** Always keep the unit upright to prevent oil leakage and avoid potential compressor damage.

1.1 Compliance and scrapping instructions

COMPLIANCES

The unit described in this manual has been Engineered, Produced, and distributed in full compliance with the essential requirements specified by the following European Directives related to machinery safety, of low voltage electrical apparatus and electro-magnetic compatibility:

- **MACHINERY DIRECTIVE (2006/42/CE)**
- **LOW VOLTAGE DIRECTIVE (2006/95/CE).**
- **ELECTROMAGNETIC COMPATIBILITY DIRECTIVE (2004/108/CE)**

Conformity has been established with reference to these harmonized standards:

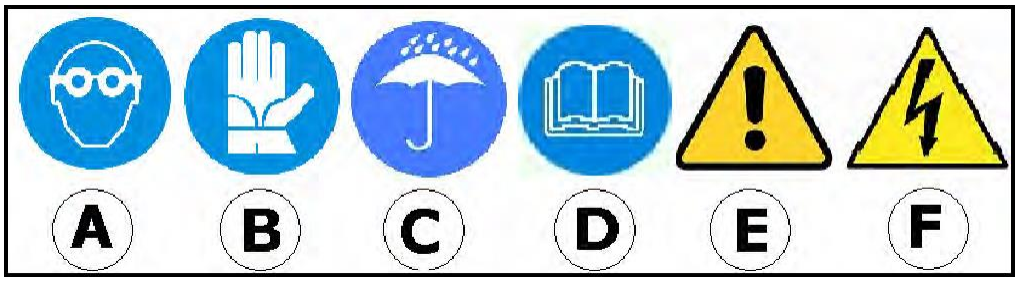
- EN 61010-1:2010;
- EN 62233 :2008
- EN 61000-6-1:2007;
- EN 61000-6-3:2007.
- EN 61326-1:2007
- EN 61000-3-2 :2006/A1:2009/A2:2009;
- EN 61000-3-3:2008

The machines are manufactured in compliance with the requirements of the RoHS European Directive (2002/95/EC).

Scrapping Procedures

- Do not dispose of the unit as mixed solid waste. Instead, disassemble it for proper waste separation.
- Direct waste electrical and electronic equipment (AEE) to designated collection points, following the applicable CEE RAEE directives 2002/95/EC, 2002/96/EC2003/108/EC.
- The vacuum pump and the containers of new and used oil contain mineral and synthetic oil. Ensure compliance with specific disposal regulations for these components. The same applies to any residual refrigerant gas in storage bottles. Exhaust oil drained from the pump is classified as specific waste and must be collected and handled according to the current regulations.
- Always consult with Local Authorities for guidance on proper disposal procedures.

1.1.1 Safety Notes



SAFETY ICONS

Below are the meaning of the safety icons found in this manual and on the unit.

A) **Wear goggles** when handling refrigerants
B) **Wear gloves** when handling refrigerants
C) **Protect the unit against humidity**
D) **Read the operations manual carefully**
E) **Caution!**
F) **Electrical shock hazard!** De-energize the power source before servicing

PRELIMINARY INSTRUCTIONS

This recycling and recharging unit for A/C systems is meant for commercial purposes and is to be operated by trained personnel. Operators must be familiar of the principles with refrigeration principles and aware of the hazards associated with pressurized equipment and substances with very low boiling points (for example at 1,013 bar, R134a boils at -26,1 C and R1234yf the boils at -29.4 C).

Important:

- Carefully read this operations manual and strictly follow all instructions, especially safety guidelines.
- The manufacturer is not responsible for damages resulting from improper use, use for purposes not described in this manual, incorrect operation, or external factors.

Note:

Always keep the unit upright to prevent oil leaks and avoid damaging the compressor.

SAFETY DEVICES:

The unit is equipped with following safety Features:

A) **Pressure relief valve** (**internal gas tank**):
1. Automatically releases pressure if it exceeds 18 Bar, ensuring the tank does not surpass its maximum safe operating pressure.
2. Do not attempt to adjust or repair this valve yourself. In case of malfunction, contact authorized service personnel.

B) **Safety fan:**
1. Provides continuous ventilation while the unit is in operation.
2. The software will display a warning if the fan fails.
3. *Note:* This device applies only model using R1234YF refrigerant.

1.1.2 Safety Advice

Safety Guidelines for Operating the Air Conditioning Service Unit.

To ensure safe and effective use of this Aircon service unit, please adhere to the following safety precautions.

Preparation and Operation:

- Carefully read the user manual before operating the unit.
- Always follow the instructions provided by the refrigerant manufacturer.
- Comply with any company-specific procedures for servicing vehicle A/C systems.
- Use only the refrigerant specified on the data plate (HFO-1234YF or R134a.)
- Do not modify the service unit in anyway.
- Use only original spare parts and approved accessories.
- Employ authorised additives or consumables: consult an authorised reseller if unsure.

Pre-Use Checks.

- Inspect charging hoses and quick couplers before each use to ensure they are undamaged and leak free.
- Recover any refrigerant from the hoses before disconnecting quick couplers.

During Use:

- Never leave the machine unattended while it is operating. Always turn off the unit using the main switch after use.
- Wear appropriate personal protective equipment, including gloves and safety glasses in addition to following your company's general safety protocols.
- Avoid inhaling refrigerant gases.
- Prevent refrigerant gas from contacting your skin to avoid the risk of frostbite.
- Do not release the refrigerant gas into the environment.
- Keep unit away from potentially explosive environments (e.g. battery charging areas.)
- Do not smoke while operating the unit.
- Place the unit on a flat, stable surface during operation.
- Avoid using the unit near open flames or heat sources, as high temps can cause refrigerant gases to become toxic.
- Do not operate the unit in very humid, wet or rainy conditions.
- Preferably use the unit outdoors.

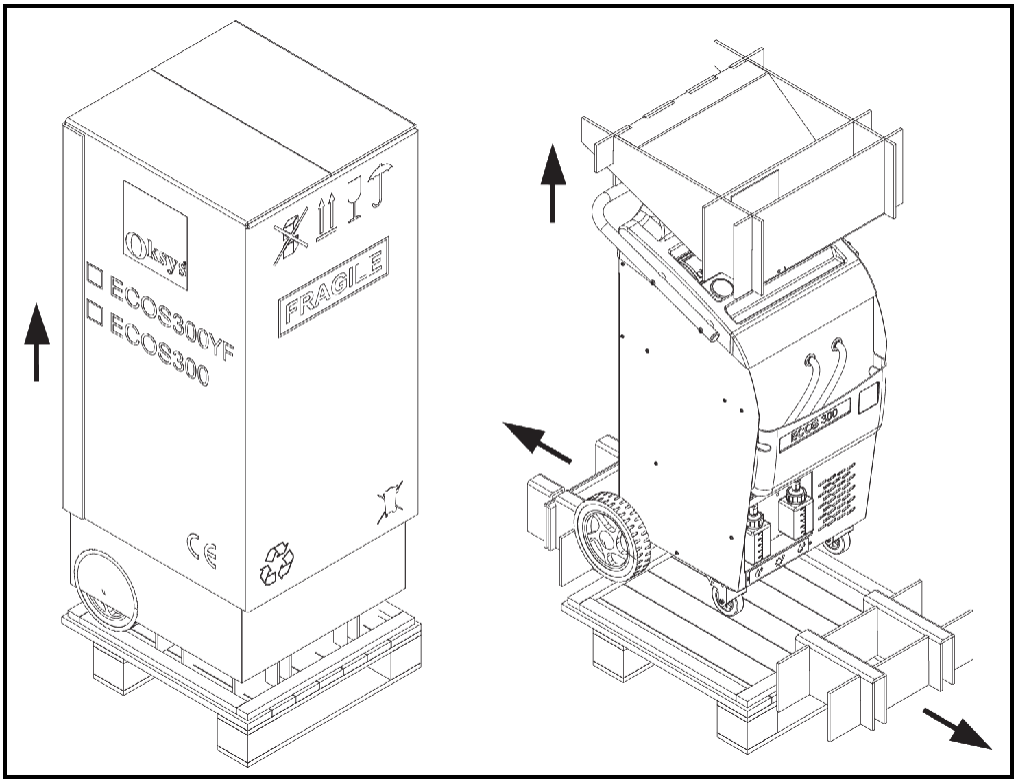
Maintenance and Handling.

- Disconnect the unit from the power supply before performing any maintenance.
- Only remove the connecting hoses when necessary; always evacuate (Vacuum) the hoses before reusing them.
- Maintenance must be performed by a qualified and authorised personnel.
- Never tamper with the unit's safety features, such as the internal tanks high-pressure valve.
- Do not introduce compressed air into the service unit or vehicle air conditioning system, as air mixed with refrigerant can be flammable or explosive.

Please note the following warranty exclusions:

- Any damages resulting from incorrect or improper use of the recharging station are not covered under our warranty.
- The warranty does not apply to consumable items, including
    1. Packing Materials.
    2. Seals for hoses and quick couplers.
    3. Fuses.
- Damages sustained during transport are also excluded from warranty coverage.

1.2.1 Unpacking



Inspection and Handling Instructions.

1. **Inspect packaging for damage.**
   - Carefully examine the packaging to ensure it has not been damaged during transport.
2. **Verify "TILTWATCH"INDICATOR (If Applicable).**
   - If your package includes a "TILTWATCH" indicator, check it's status.
   - If the indicator has turned **RED,** follow the specific instructions provided for this situation.
3. **Check Equipment and Accessories.**
   - Inspect all equipment and related accessories thoroughly to confirm their condition.
4. **Report non-conformities.**
   - Immediately note any non-conformities or discrepancies.
   - Record these issues on the transport documents at the time of delivery.
5. **Preserve Packaging for future use.**
   - Handle the packaging with care.
   - Retain the packaging for passible reuse in the future shipments.

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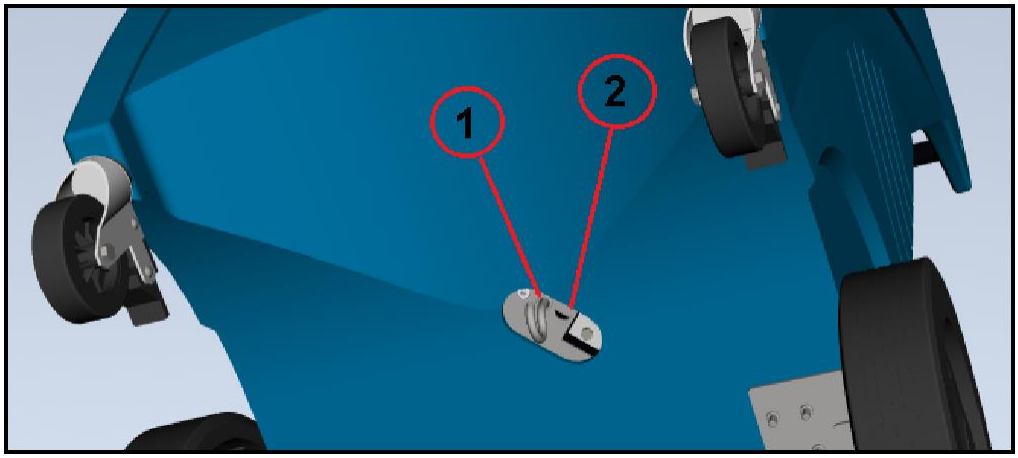
1.2.2 Preliminary Checks



Transport Locking Calibration Hook Removal.

Before operating the unit for the first time, remove the hook attached to the tank scale. This hook is installed for transportation protection. Store the hook in a safe location in case it is needed later for scale calibration.

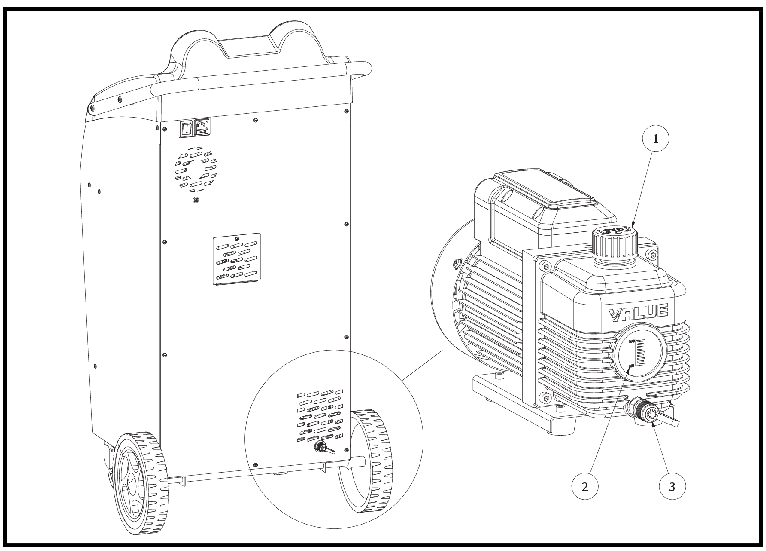
- The hook is located on the back of the machine.
- Positions:
  - **Transport Lock Position:** Hook is secured for transport.
  - **Calibration position:** Hook is used during calibration procedures.

Vacuum Pump Oil Check.

Regularly inspect the hydraulic oil level in the vacuum pump. If the oil level is low. Refill until it reaches approximately half the height of the sight glass.

Legend:

- 1. Oil Inlet
- 2. Sight Glass (oil should be at the half the scale).
- 3. Oil Drain.



1.2.3 Hoses connection

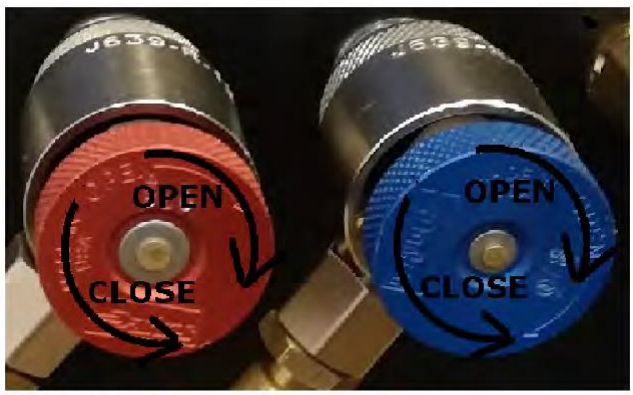
Charging Hose Connection and System Preparation Instructions

1. **Connect Charging Hoses**
   - Attach the charging hoses to the unit:
   - High-pressure side: Connect the red hose.
   - Low-pressure side: Connect the blue hose.
   - Ensure the quick couplings are in the closed position by turning them counterclockwise (refer to the relevant diagram if needed).

2. **Vacuum Cycle and Leak Test**
   - Run a vacuum cycle for one to two minutes.
   - After the vacuum cycle, perform a leak test under vacuum.
   - This process removes any air left in the hoses and checks for possible leaks.
   - Repeat the vacuum and leak test procedure whenever the charging hoses may have been exposed to air.

3. **Hose Length Setting**
   - Verify the hose length setting:
   - Go to SETTINGS.
   - Select HOSE LENGTH.
   - Adjust the value as needed using the UP and DOWN buttons.
   - Note: If the hose length is set to zero, the unit will not account for gas remaining in the hoses at the end of the working cycle. Instead, it will prompt you to extract any gas left in the vehicle's A/C system.

4. **Special Case: Pressure Test**
   - If performing a pressure test that is not preceded by a standard working cycle, the unit will automatically recover any gas remaining in the vehicle, regardless of the hose length setting.



OPEN: turn clockwise
CLOSE: turn counterclockwise

1.2.4 Internal bottle refill

Instructions for Filling the Internal Gas Bottle

For safety reasons, the unit is shipped with its internal gas bottle empty. Before use, the bottle must be filled with refrigerant as follows:

- Minimum Fill: At least 2 kg of refrigerant.
- Maximum Fill: No more than 80% of the bottles maximum nominal capacity (this percentage may vary depending on local safety regulations).

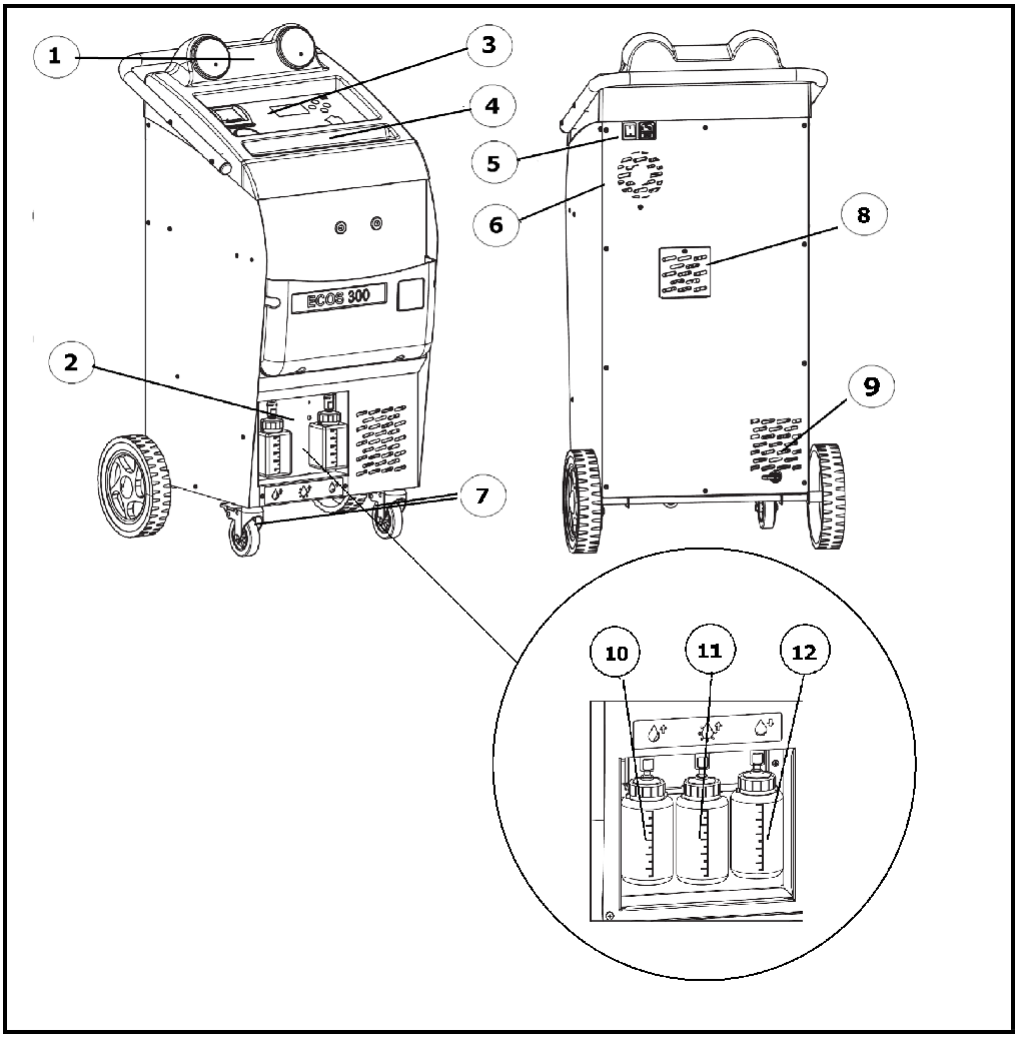
Important: Always consult and follow the detailed instructions provided in this manual when filling the internal tank.

To connect the bottle for filling, use the HP hose together with the supplied adaptor

For filling of Bottle Ref Page 32 Section 7.1

Adaptor for R134A Bottles
Code AD41

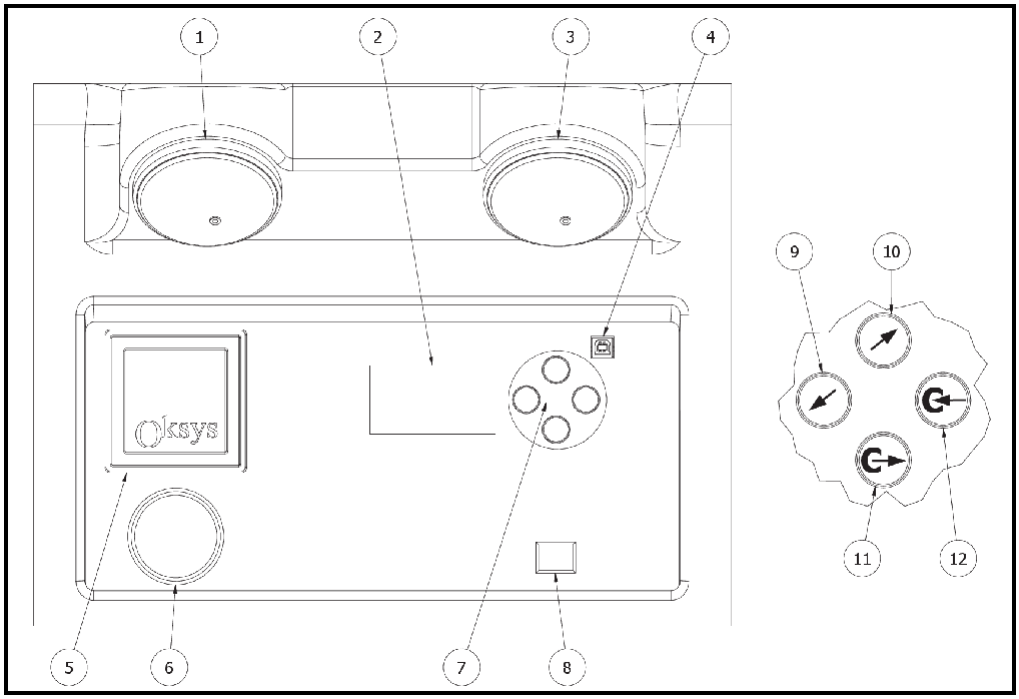
1.3 Unit description



Legend:

1) Top gauges panel
2) Oil bottles housing
3) User Panel
4) Accessories storage
5) Main switch
6) Fan
7) Wheels with brake
8) Tank access door
9) Vac pump ventilation grid
10) New oil bottle
11) Dye bottle (or POE oil bottle)
12) Oil drain bottle

1.3.1 User panel

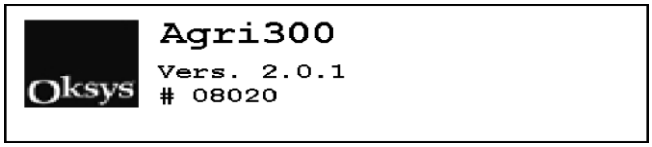


The picture above shows the user panel that allows to control the functions of the unit.

Legend:

1) Low pressure gauge
2) High pressure gauge
3) LCD Display
4) USB type B port
5) Thermal printer housing (optional)
6) Tank pressure gauge
7) Control buttons
8) Bluetooth antenna
9) Button DOWN
10) Button UP
11) Button EXIT

2.1 Startup initialization



Machine Startup Sequence

When the machine is powered on, the following information is immediately displayed:

- Machine type
- Software version
- Last five digits of the serial number

Bluetooth Initialization

Simultaneously, the internal Bluetooth antenna is activated, enabling connectivity with the Oksygen+ APP.

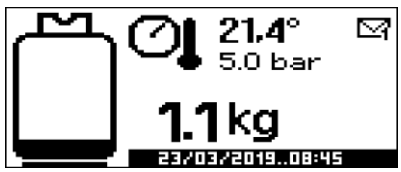
Automated System Checks

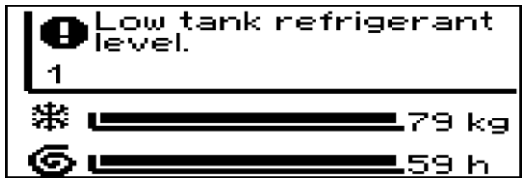
The unit then automatically performs a series of diagnostic tests to ensure proper functionality and to verify that there are no leaks within the internal circuits. This process includes:

- Internal cleaning procedures
- Exhaust oil drain
- Internal vacuum phase

These steps are designed to prepare the machine for safe and efficient operation

2.2 Main screen





Main System Panel Overview

After the startup procedure, the main system panel is displayed. This panel provides key operational information, including:

- **Refrigerant Quantity:** Shows the amount of refrigerant currently stored in the internal tank.
- **Refrigerant Temperature:** Displays the current temperature of the refrigerant.
- **Calculated Tank Pressure:** The system calculates and displays the expected tank pressure based on the refrigerant quantity and temperature

If the actual tank pressure is significantly lower than the calculated value, this indicates the presence of non-condensable gases inside the tank. In such cases, it is necessary to purge the tank.

Notifications Panel

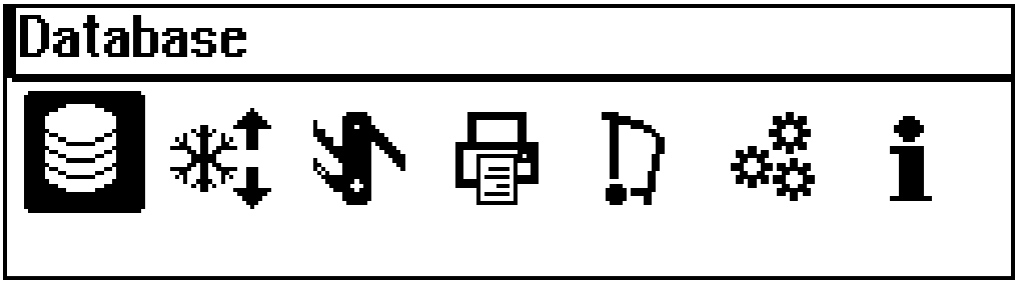
The notifications panel is also accessible from this screen and includes:

- Service Countdown: Displays a countdown to the next scheduled system maintenance.
- Active Notifications: Lists all current system notifications.

Panel Navigation:

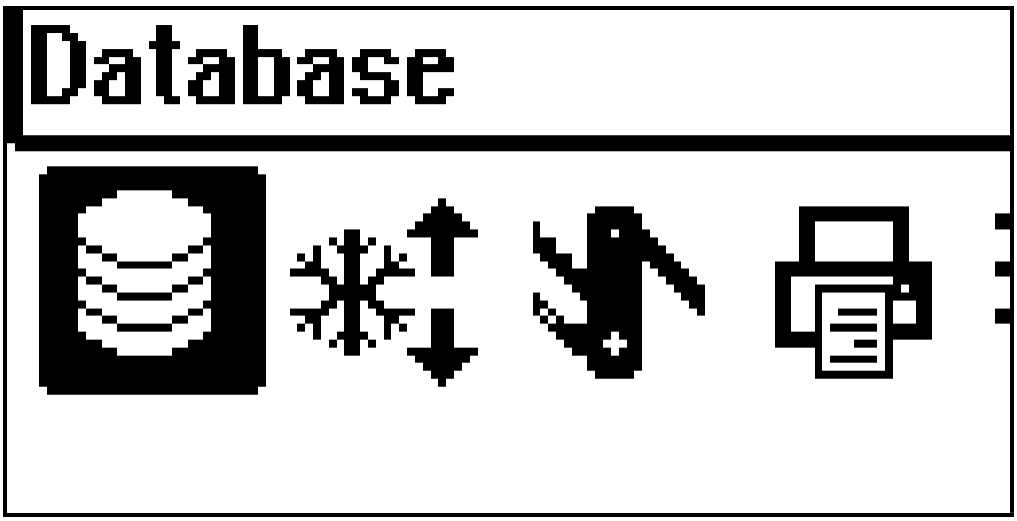
- Press ESC (depending on the unit model) to activate the notifications panel.
- Use the UP and DOWN keys to scroll through the list of active notifications.
- Press ENTER to access the main menu.

2.3 Main Menu

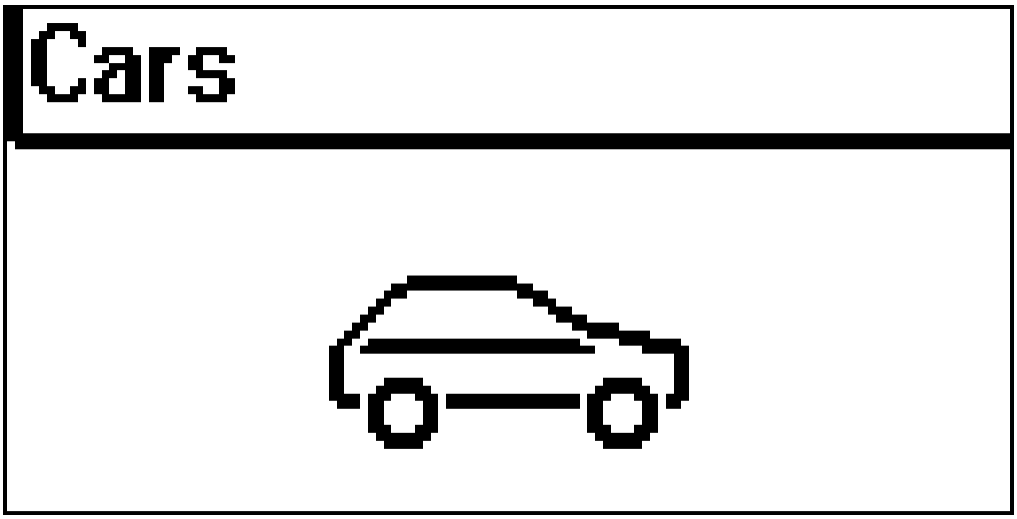


Main Menu Overview

- The main menu gives you access to all features and settings of the A/C service unit.
- The function currently selected appears in the title area, and its icon is highlighted for easy identification.
- For certain functions, the most important input value is shown directly below the icon.
- If you see three dots on either the left or right edge of the screen, it means additional functions are available—scroll in that direction to view more.
- Use the UP and DOWN buttons to move through the available functions. Press ENTER to open the menu for the selected function.



3.1 Database

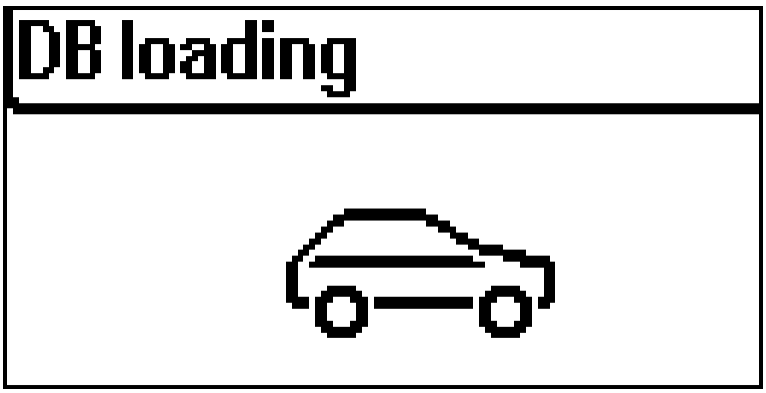


Database Function Overview

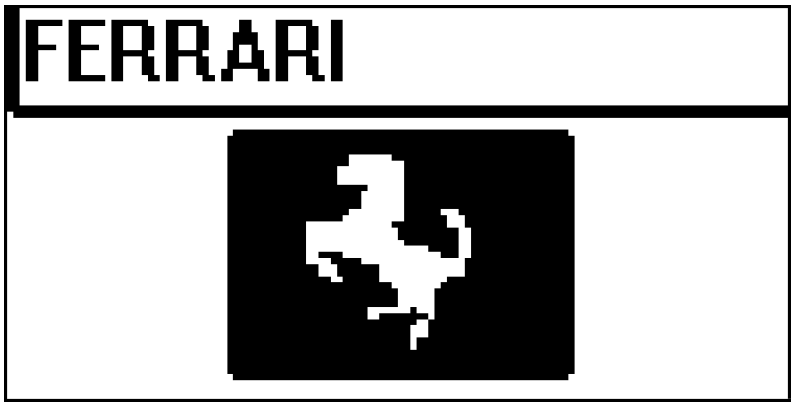
The database feature enables users to configure the service unit for performing the standard recovery and recharge service tailored to a specific vehicle.

Multilevel Selection Process.

- The system offers a multilevel selection interface to access detailed information about the vehicle's air conditioning A/C) system.
- At the first level, users choose from the currently installed databases to begin the selection process.



3.2 Model selection



Database Selection Overview

The service unit supports the installation of multiple databases, such as the cars database, trucks database, and the special vehicles database (commonly referred to as "Agriculture vehicle").

Navigating the Database Menu

- Use the UP and DOWN buttons to scroll through the list of installed databases.
- When the desired database is displayed, press ENTER to select and load it.

This menu system enables easy navigation and selection of the required database for your specific ne

Revised Instructions for Navigating the Brand List

You can browse the brand list in the selected database using this function to find the desired brand.

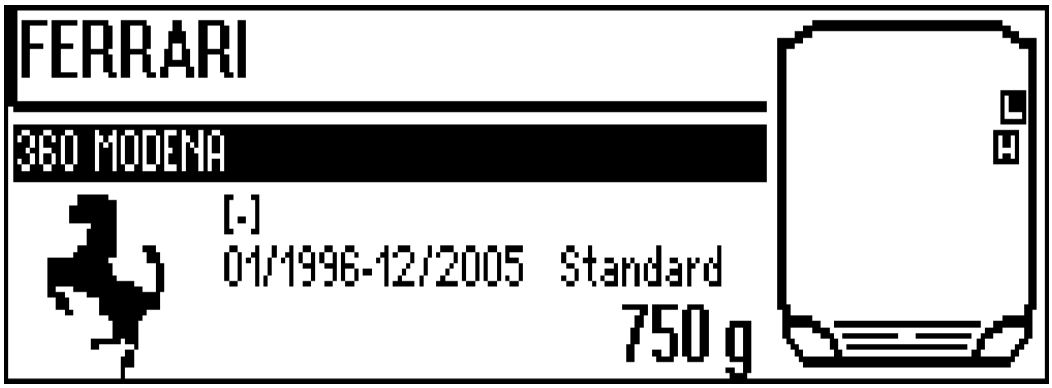
- Use the **UP** and **DOWN** keys to scroll through the list.
- Press **ENTER** to display the list of models associated with the currently highlighted brand.

Vehicle Model Selection and Navigation

At this level, you can browse the list of vehicle models associated with the selected brand from the loaded database.

- Use the **UP** and **DOWN** arrow keys to navigate through the model list.
- Press **ENTER** to display all available air conditioning A/C) systems for the currently highlighted vehicle model.

3.3 Type Selection



Advanced Database Selection for Vehicle A/C Systems

At this stage, you are accessing a more detailed selection menu within the database. Multiple types of A/C systems may have been installed on a vehicle, depending on its configuration or production period.

Displayed Information

- **A/C System Name and Production Period**:
  When relevant, the database shows the specific name of the A/C system and the corresponding production period. This ensures you can accurately identify the correct A/C configuration for the vehicle.
- **Supporting Data:**
  Additional information may be provided, such as:
  - The recommended A/C compressor oil specified by the vehicle manufacturer.
  - The engine type Standard, Hybrid, or fully electric).
  - The locations of the service unit quick coupler connections.

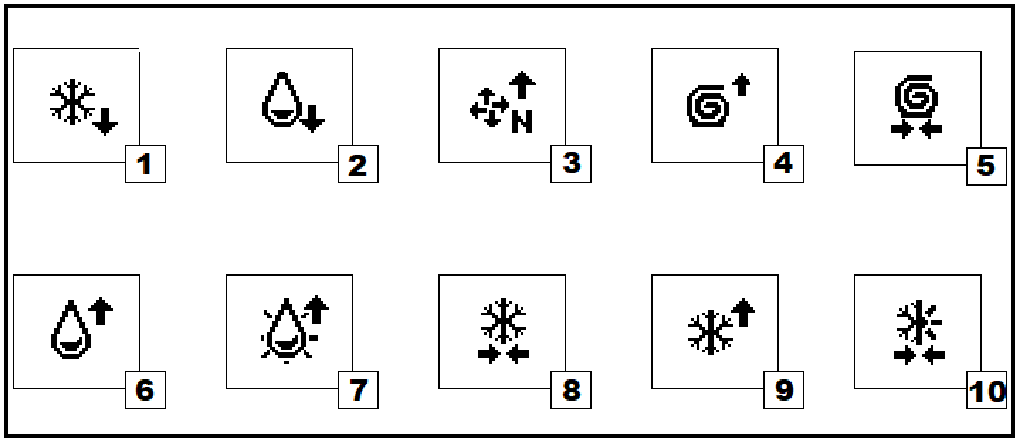
- **Refrigerant Quantity:**
  The required amount of refrigerant for the selected A/C system is also displayed, helping ensure proper servicing.

Navigation Instructions

- Use the **UP** and **DOWN** keys to browse through the list of available A/C systems for the selected vehicle.
- Press **ENTER** to configure the service unit and proceed directly to the A/C service function.

This structured approach helps you select the correct data and settings for efficient and accurate A/C system servicing.

4.1 A/C Services



<u>The standard sequence of the A/C system service includes:</u>

1) Refrigerant recovery
2) Exhaust oil drain
3) Stress test under nitrogen (if provided by the service unit)
4) Vacuum
5) Vacuum test
6) Oil refill
7) Dye refill (if provided by the service unit)
8) Charge trial (provided only in the HFO1234yf service units)
9) Refrigerant charge

The number of functions may change depending on the unit model or on the installed options.

4.1.1 Editable Input data

Service Procedure Input Instructions

Some service procedures require you to adjust input data before execution. If an input value is set to zero, the corresponding procedure will not be performed.

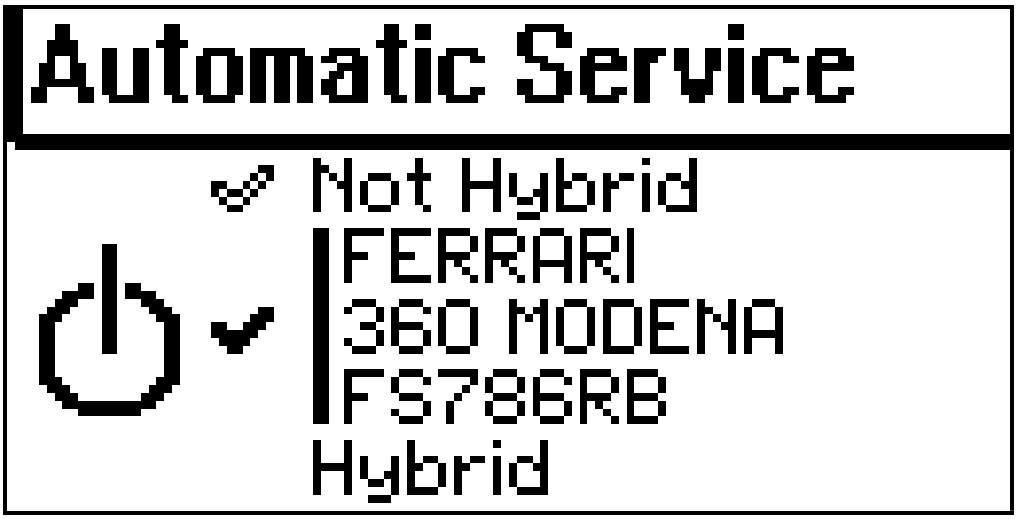
For example:

- The VACUUM service requires you to set the vacuum time.
- The CHARGE service requires you to specify the amount of refrigerant to be charged.

Input Controls:

- Use the **UP** and **DOWN** buttons to adjust the input value.
- Press **ESC** to confirm your selection and return to the A/C Service menu.
- Press **RETURN** to confirm the value and start the selected service.

4.1.2 Service Resume



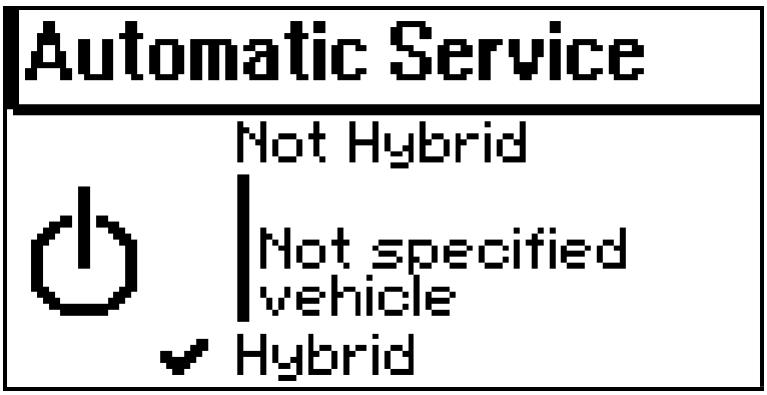
Before beginning any A/C service, the system displays a summary screen.

This screen presents the following information:

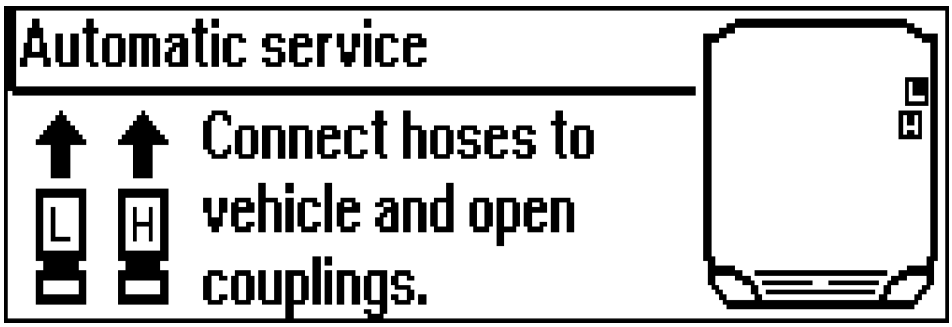
- The selected service type
- The current vehicle's brand and model
- The engine technology: standard or hybrid/electric

To proceed, press **ENTER** to confirm the current vehicle.
Alternatively, use the **UP** and **DOWN** keys to select "Not Specified Vehicle" and choose between a standard or hybrid/electric engine.

Note:
If you are servicing a hybrid/electric vehicle and have not yet performed the oil decontamination procedure, the system will prompt you to do so. For details, refer to section 7.3 on page 43.



4.1.3 Quick couplers connection



Connecting and Operating the Charging System

1. **Hose and Coupler Connection**

- Attach the charging hoses to the appropriate component, which may be the vehicle, an external bottle, or the AC part to be serviced, depending on the current procedure.
- Connect the quick couplers to the service ports.
- To open the quick couplers, turn the knob clockwise.
- To close the couplers, turn the knob counterclockwise.
- Open the main taps by positioning them vertically (refer to section 1.3 "Unit Description," item 5.

2. **Display and Procedure Information**

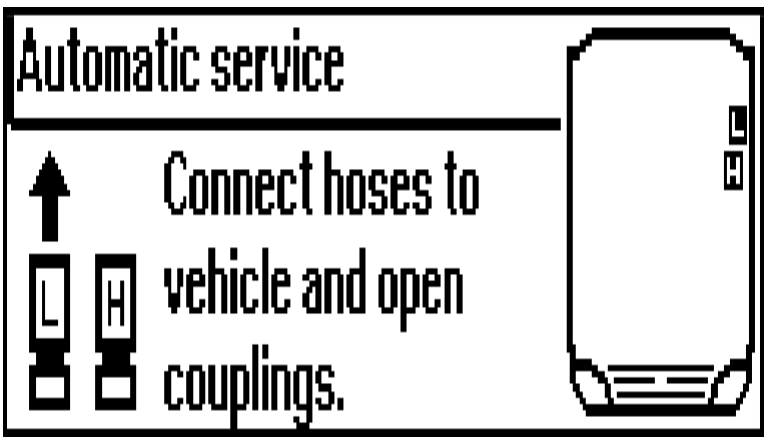
- When connecting to a vehicle, if available, the display will show the location of the service couplings in the engine compartment on the right side.
- The title bar at the top of the display indicates the currently selected procedure.

3. **Line Selection**

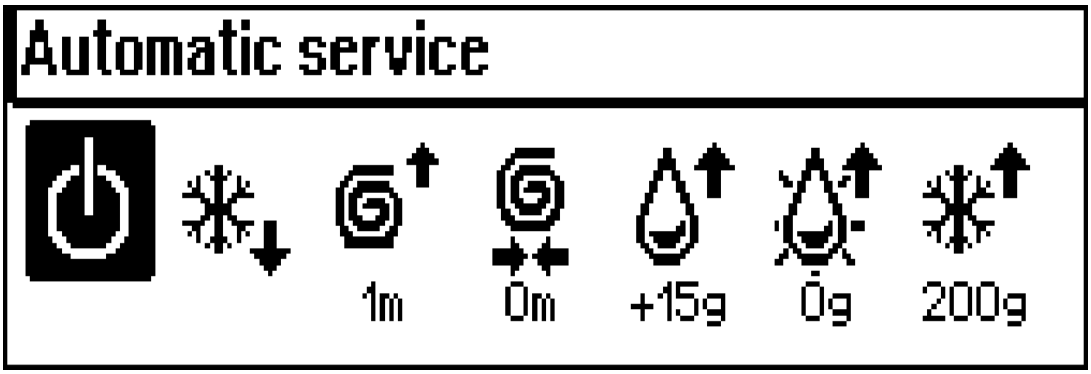
- Use the UP and DOWN buttons to select whether the unit should operate with both lines (high pressure HP] and low-pressure LP] or just one, as appropriate for the procedure.

Pressure Monitoring

Once the couplers and main taps are open, the pressure gauges will display the current pressures from the connected vehicle or bottle.



4.2 Automatic Service



Automatic Service

The **Automatic Service** function initiates a fully automated sequence for A/C servicing. Each step in the sequence is performed automatically based on the input values provided.

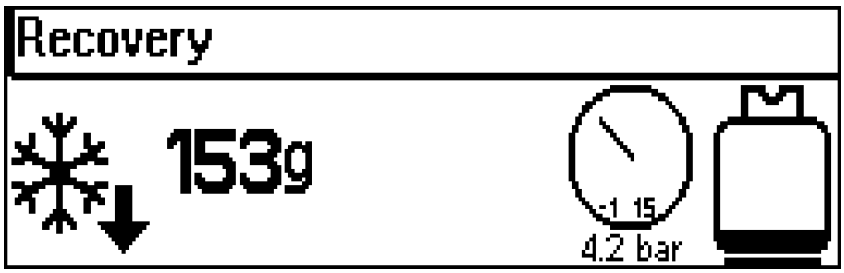
- If you set an input value to zero, that specific step will be skipped.
- If the system encounters a condition that prevents it from continuing, it will display an error message, halt the sequence, and prompt you to perform the final hose recovery procedure.
- If you observe a sudden change in the displayed refrigerant quantity during charging, it is recommended to repeat the procedure.
- Whenever applicable, the input value for each service step is shown under the corresponding service icon.

Single Service Step

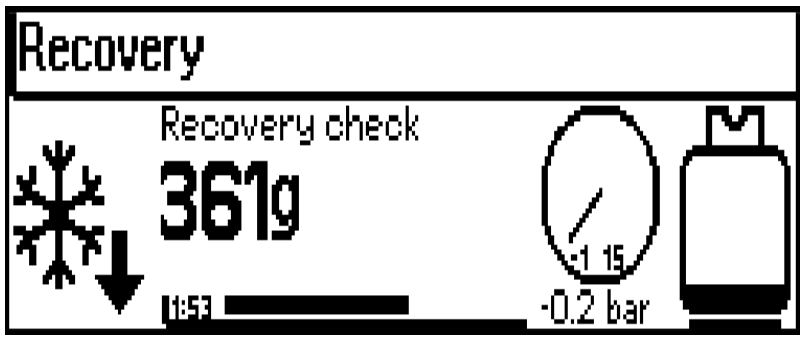
You can perform individual service functions as needed:

- Use the **UP** and **DOWN** buttons to select a specific service function.
- Press **ENTER** to start the chosen procedure.
- Single functions can be executed independently or as part of the full automatic service sequence.
- To begin the fully automatic sequence, select the leftmost function.
- To perform a specific procedure, choose the corresponding function.
- Press ESC at any time to stop the current procedure, regardless of its progress.
- If a condition arises that prevents the system from proceeding, the sequence will be interrupted, and the final hose recovery procedure will be suggested.

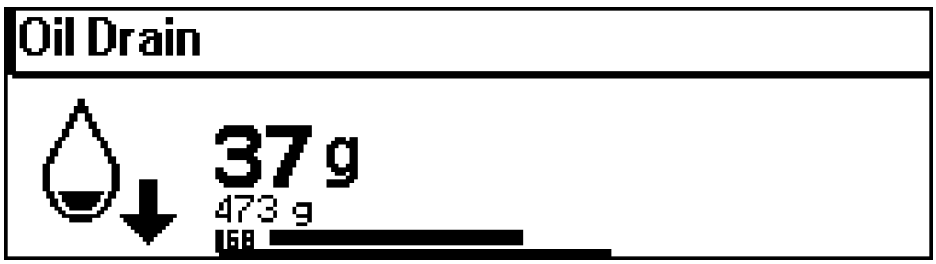
4.3 Recovery



During this phase, the system recovers refrigerant from the A/C system and stores it in the internal tank. As the pressure in both the internal lines and the vehicle drops and reaches the lower threshold, the compressor shuts off. The unit then monitors the pressure: if it rises again, indicating that residual refrigerant remains in the vehicle, the system initiates another recovery cycle. This process repeats until the pressure stabilizes at a low level, signaling that all recoverable refrigerant has been removed and the procedure is complete.



4.4 Oil Drain



If at least 50 grams of refrigerant are recovered, the Drain procedure will begin automatically immediately after the Refrigerant Recovery process.

- The unit will display the amount of refrigerant that has been recovered.
- For models equipped with an oil scale, the screen will show both the quantity of drained oil and the amount of recovered refrigerant.
- If the recovered refrigerant amount is low, the Drain procedure will be skipped.

4.5 Vacuum

The **VACUUM procedure** is designed to remove air and moisture from the A/C system. It is highly recommended to perform an extended vacuum process, especially whenever the A/C system has been opened, such as during component replacement.

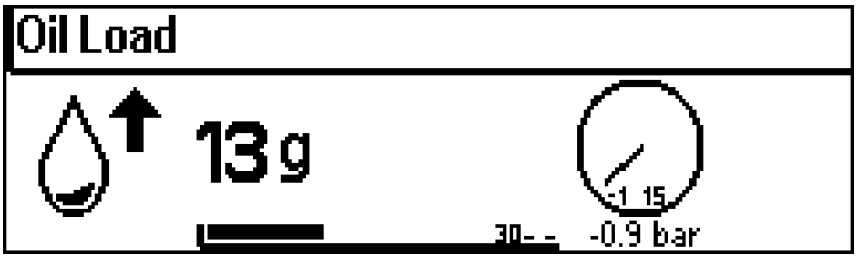
- If the system is unable to achieve the required vacuum pressure, the procedure will automatically halt, signaling a possible leak within the A/C system.
- Once the preset vacuum time has elapsed, the **VACUUM TEST** procedure will begin automatically, provided the corresponding parameter is not set to zero.

4.6 Vacuum Test

<u>Vacuum Test Procedure Overview</u>

- The **Vacuum Test** procedure initiates automatically once the Vacuum process is complete.
- This test checks whether the vacuum pressure remains stable in the A/C system for a specified duration.
- If the system detects a rise in pressure during the test, it will alert you to a possible leak in the A/C system. You can set the vacuum test duration via the menu: SETUP -> WORKING SETUP -> VACUUM TEST
- If the vacuum test time is set to zero, the system will skip this test.

4.7 Oil Injection



Oil Refill Procedure for A/C Circuits

The oil refill procedure is designed to restore any oil lost from the A/C circuit during refrigerant recovery. There are three available modes for this process, determined by the value set for the EXTRA OIL parameter (found in the WORKING SETUP section of the SETUP menu) and the input data provided.

1. **Weighed Automatic Mode**

- This mode automatically refills the same amount of new oil as was drained from the system, with the option to add a specified extra quantity.
- For example, if you enter 10g as the input, the system will inject 10 grams more than the amount that was drained.
- When running a single procedure, the displayed value will be injected, regardless of the previously drained quantity

2. **Preset Automatic Mode**

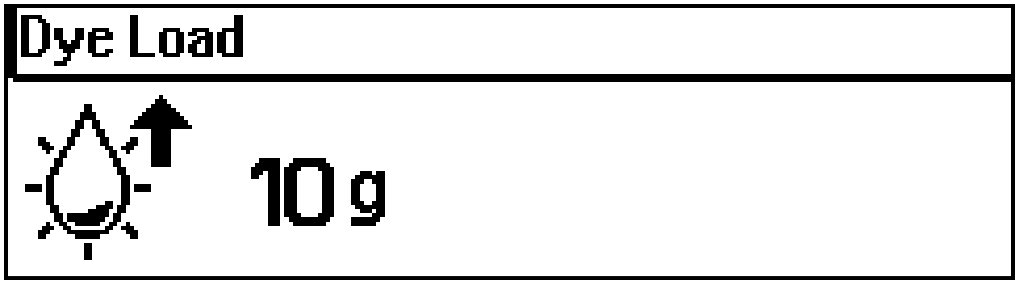
- This mode allows you to refill a specific quantity of new oil, independent of the amount that was drained.
- Simply enter the desired refill amount (e.g., 10g) as the input data.
- To activate this mode, set the EXTRA OIL parameter to "X".

3. **Semi-Automatic Mode**

- In this mode, you can check the amount of oil that was drained and manually set the quantity to be refilled.
- To use this mode, follow the steps for the Preset Automatic Mode and set the value to "X".

Note:
Oil refilling can only be performed if the A/C system has been vacuumed. After refilling the oil, a refrigerant charge must be carried out.

4.8 Dye Injection

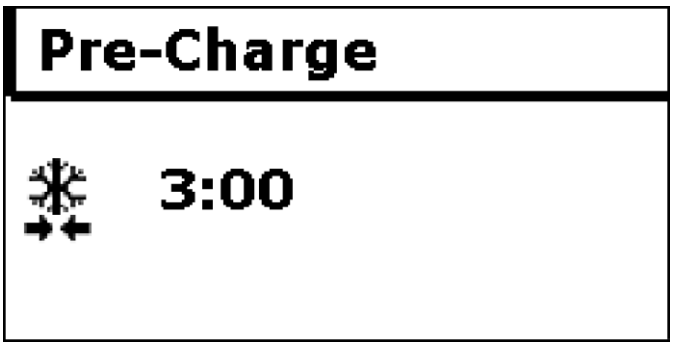


Dye Injection Process in A/C Systems

Dye injection involves introducing a specified amount of special dye-infused oil into the air conditioning A/C) system to help identify potential leaks.

- Unlike other cycles, the dye injection process does not retain the previously entered quantity. Therefore, you must set a positive value for the dye amount each time the procedure is performed.
- Dye injection can only be carried out when the A/C system is under vacuum.
- After dye injection, it is necessary to follow up with a refrigerant charge.

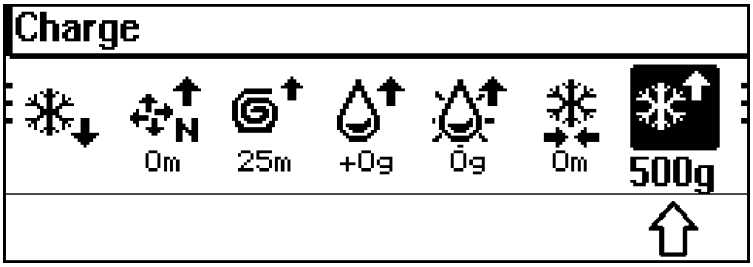
4.9 Refilling Test (R1234yf models only)



Pre-Charge Leak Test Procedure

This procedure initiates a pre-charge test by introducing a reduced amount of refrigerant— specifically 15% of the total required charge—to check for potential leaks. After the refrigerant is added, the unit monitors pressure stability over a specified period.
At the end of the test period, the refrigerant is recovered into the internal tank to ensure the accuracy of the subsequent full refrigerant charging process.
If a pressure test using nitrogen (stress test) is possible, the pre-charge cycle can be omitted.

4.11 Gas Refilling



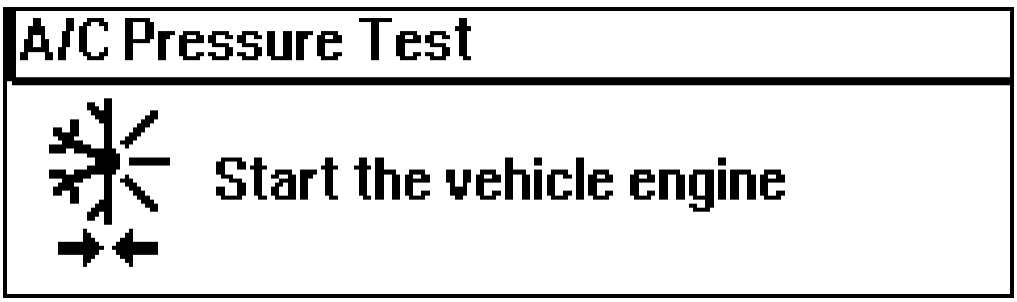
Refrigerant Charging Procedure

This procedure delivers the specified amount of refrigerant into the A/C system. Any oil previously added will be carried into the A/C system by the refrigerant during this step.

After charging, the system automatically determines and recovers any refrigerant remaining in the hoses back into the tank. If the hose length setting is set to "0," the unit will prompt the user to turn on the A/C system so that any remaining refrigerant in the hoses is drawn into the vehicle's A/C system.

Note: If you observe a sudden change in the displayed refrigerant quantity during charging, it is recommended to repeat the procedure.

4.12 A/C Pressure Test



Automatic A/C Test Procedure

Setting the Test Time

- Select the duration for the automatic A/C test to be performed at the end of the service.
- If the test time is set to "0", this phase will be skipped during the automatic cycle.
- The recommended test duration is 3 minutes.

Initiating the Test

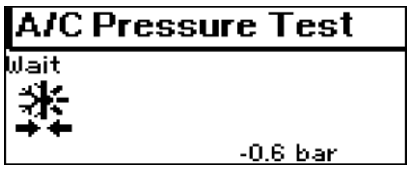
Press ENTER to begin the A/C test.

Test Phases

For the first two minutes, the unit allows the A/C system to stabilize.
After stabilization, the unit measures temperature and pressure values.

Completing the Test

- Press ENTER to print the results or EXIT to return to the main menu.
- At the end of the test, the unit will either recover residual gas from the hoses into the unit or guide you to recover it into the vehicle, depending on the hose length parameter settings.

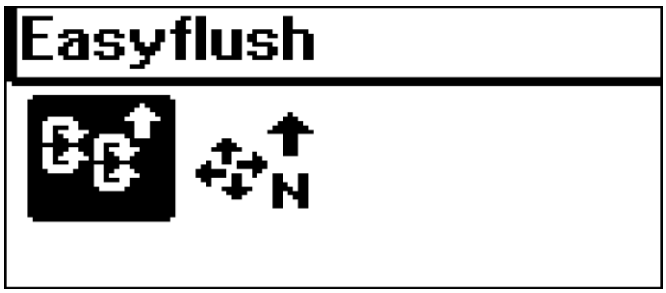


5.0 Accessories

This menu provides access to several auxiliary functions. Depending on your specific model, some or all the following procedures **may** be available:

- Flushing
- "Easy Flush"
- A/C system diagnostics
- Leak detection
- Gas analysis

5.2 Easyflush



EASYFLUSH Cycle Operation and Contamination Check

The EASYFLUSH cycle is designed to automatically fill and recover liquid refrigerant within the vehicle's A/C system, or specific components of it.

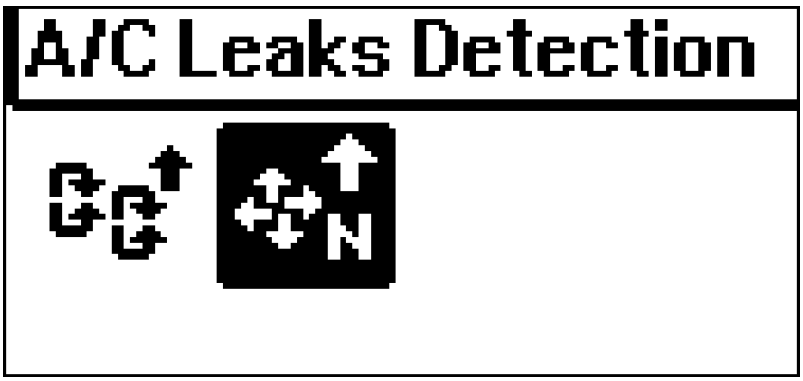
Checking for Refrigerant and Oil Contamination

To determine if the refrigerant (and the oil mixed with it) is contaminated, follow these steps using the ACC-EASYFLUSH accessory kit **(sold separately):**

- Connect the vehicle's A/C system, or the relevant section, to the unit using the EASYFLUSH accessory kit as outlined in the instructions provided with the kit.
- Select the EASYFLUSH function and specify the appropriate amount of refrigerant based on the volume of the component to be flushed.
- Press ENTER to begin the process.

Before flushing starts, the unit will automatically run a vacuum cycle to check for leaks. This vacuum step is essential to ensure there is no gas leakage into the environment.

5.4 A/C Leaks Detection



A/C Leak Detection Cycle Instructions

The A/C leak detection cycle enables you to test the air conditioning system for leaks using nitrogen or forming gas, along with an electronic leak detector (code: LS2).

Required Equipment

- **Nitrogen/Forming Gas Bottle**
  - Use your own bottle
- **Nitrogen Test Kit**
  - Standard: CSA-NITRO
  - For Agri300/Fast320:CFU-NITRO-HD
  - For Fast340:CFU-NITRO-REDUCER
- **Electronic Leak Detector**
  - Code: LS2

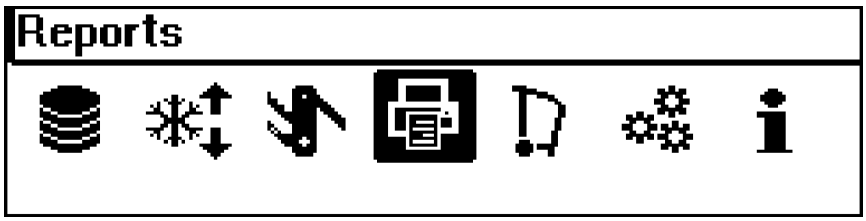
Note: These accessories are not included with the A/C unit and must be ordered separately. Always refer to the specific instructions provided with each accessory kit.

Test Procedure

1. **Connect** the nitrogen or forming gas bottle to the A/C unit.
2. **Set the Pressure** to the recommended 10 Bar.
3. **Set the Test Duration** as required.
4. **Initiate the Test** by pressing ENTER.
5. **Monitor for Leaks:**
   - If the system detects a pressure drop (indicating a possible leak), a series of warning sounds will alert you.

Always follow the accessory kit instructions for safe and proper use.

6.0 Reports



Reports Menu Overview

The **Reports** menu offers a range of functions to help manage and review service activities related to the service unit.

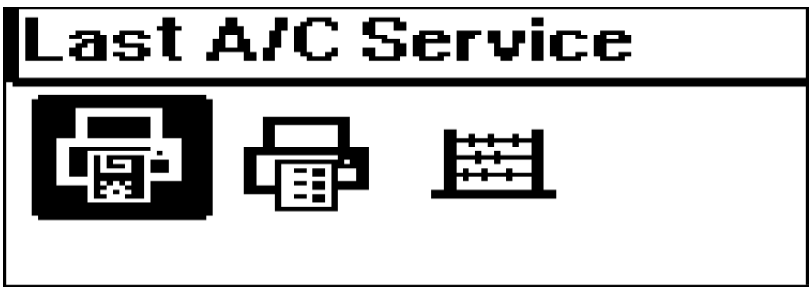
- **Display and Print Reports**
  - View or print reports detailing the services performed with the service unit.
- **Quick Access**
  - Instantly access the report for the most recent service using a dedicated shortcut.
- **Comprehensive Service List**
  - Browse through the entire list of services using the menu to locate and review any past service

Special Report Functions

- **Counter Management**
  - A dedicated report is available to display, print, and reset various counters.
  - This includes all counters required for compliance with Gas regulations.

Use these features to efficiently track, document, and maintain records of all service activities and regulatory requirements.

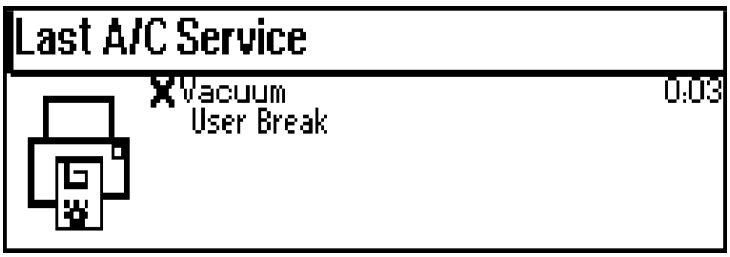
6.1 Last A/C Service



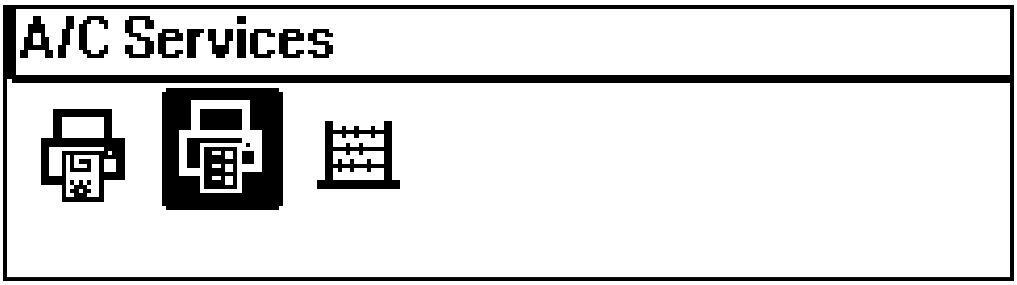
Service Data Display and Options.

The unit shows information related to the most recent air conditioning service performed.

- To print this information (if a printer is connected), select ENTER.
- To go back to the previous screen, select EXIT.



6.2 A/C Services



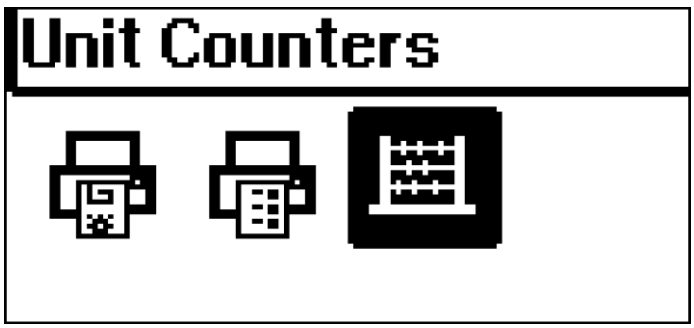
Service Registry Navigation Overview

This feature enables users to browse the internal Service Registry for a specific unit.

Key Capabilities

- The Registry displays a chronological list of all services performed on the unit, organized by month.
- Users can:
  - View detailed information for any individual service.
  - Print the receipt for a selected service.

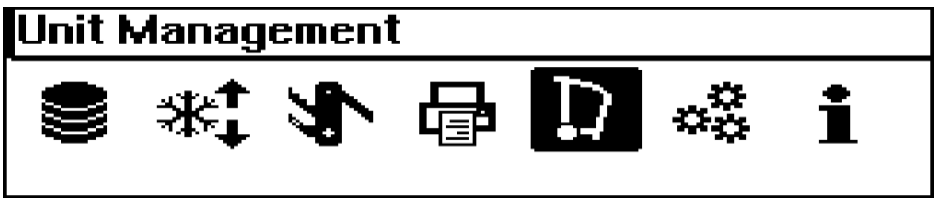
6.3 Reset Counters



The function displays counters for the refrigerant recovered by the unit, as well as for the refrigerant and oil used to fill vehicles.

Press ENTER to print a receipt. Once printing is complete, the system will prompt you to reset the counters. Press ENTER to confirm the counter reset or press ESC to exit without resetting.

7.0 Unit Management

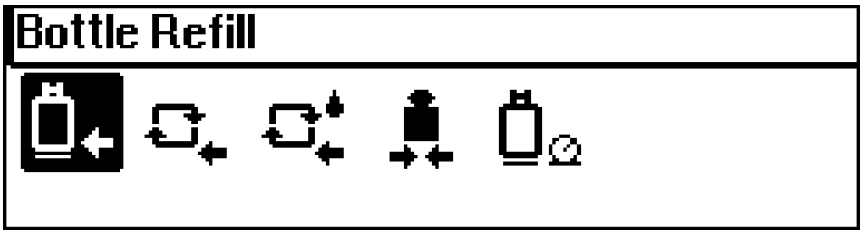


This menu provides access to several features designed to support routine self-maintenance, including:

- Internal refrigerant tank refilling
- Self-cleaning cycles
- Decontamination cycles
- Scale test function

These options help users perform regular upkeep and ensure optimal operation.

7.1 Bottle Refill



Internal Tank Refill Procedure

Follow these steps to load or refill the internal tank:

1. **Start the Refill Cycle**
   - Press the blue Enter button.
   - Use the Up Arrow to navigate to **Unit Management.**
   - Press the blue key to select.
2. **Initiate Bottle Refill**
   - When "Bottle Refill" appears, press the blue Enter key again.
   - Follow the on-screen prompts.
3. **Input Refrigerant Quantity**
   - Enter the quantity of refrigerant to be loaded when prompted.
   - **Important:** The actual amount loaded may be higher than the set value, depending on the hose length.
     - For a 3-meter hose, expect the final refill amount to be approximately 300-400 grams more than the value entered.
4. **Additional Reference**
   - For further details about this cycle, refer to the instructions in Chapter 1 of the manual.

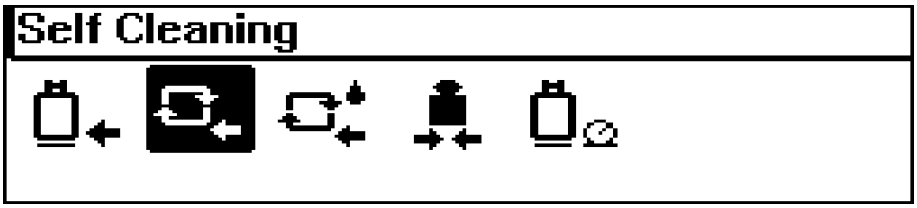
7.1.1 Bottle Purge

If the automatic incondensable gas purge system is not functioning and the tank pressure is higher than expected for its temperature, you can manually purge the tank as follows:

1. Put on safety gloves and goggles.
2. Locate the ring on top of the maximum pressure valve (refer to section #1.3.2 Rear panel).
3. Carefully pull the ring to begin releasing pressure.
4. Slowly release pressure until the tank pressure gauge matches the theoretical pressure for the current tank temperature.
   - Both the tank temperature and the corresponding theoretical pressure are shown on the main screen of the unit.

Always proceed slowly and with caution to ensure safety during this process.

7.2 Self Cleaning



Self-Cleaning Cycle Overview

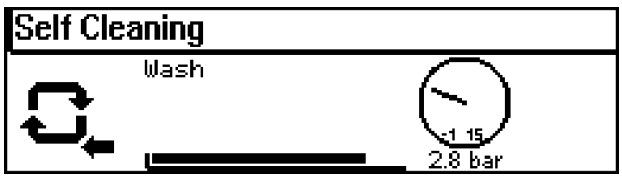
The self-cleaning cycle is designed to internally flush the refrigerant, effectively cleaning the internal circuit by removing oil and accumulated contaminants.

Key Steps in the Cycle

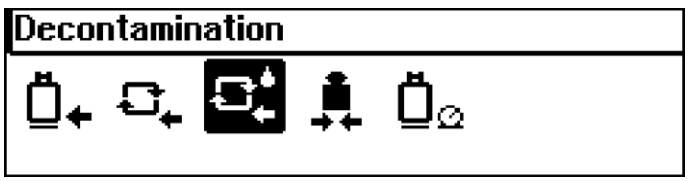
- **Internal Flushing:** Circulates refrigerant throughout the system to dislodge and remove oil and debris from the internal circuit.
- **Oil Drain and Vacuum:** After flushing, the cycle automatically drains the oil and applies an internal vacuum to ensure thorough cleaning

Benefits of Regular Use

- **Improved Efficiency:** Routine operation of the self-cleaning cycle helps maintain optimal system performance.
- **Extended Unit Lifespan**: Regular cleaning reduces the buildup of contaminants, supporting longer equipment life and more reliable operation.



7.3 Decontamination



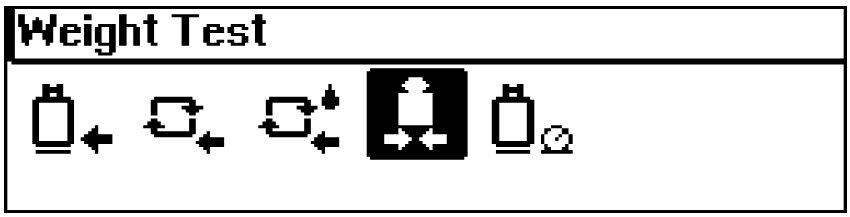
Decontamination Cycle Overview

The **DECONTAMINATION cycle** is a specialized self-cleaning process designed to prepare the unit for use with a different type of oil.

Key Features

- Unlike the standard SELF-CLEANING cycle, the DECONTAMINATION cycle also cleans the charge hoses.
- After completing the initial setup steps, the system automatically runs three consecutive refrigerant LOAD AND RECOVERY cycles.
- This cycle is triggered automatically when servicing a hybrid vehicle, provided the station was previously used on a non-hybrid vehicle.

7.4 Weight Test



Scale Features and Testing Procedures

Internal Scales for Measurement

- All unit models are equipped with an internal scale to ensure precise measurement of both recovered and refilled refrigerant.
- Depending on the specific model, an additional scale may be included to measure the amount of oil that is drained and refilled.

Scale Testing Procedures

To verify the accuracy of the scales, two testing methods are provided:

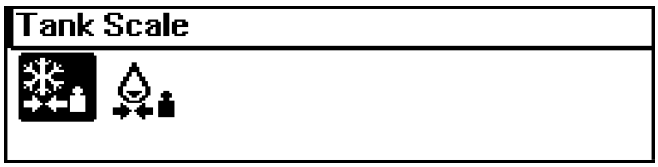
Refrigerant Scale Test:

- Attach a sample weight of at least 100 g to the opposite supplied hook.
- The scale will display the measured difference.

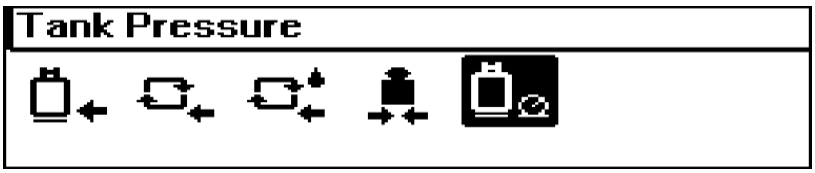
Oil Scale Test:

- Place the sample weight inside an empty oil bottle.
- The scale will show the measured difference on the display

These procedures help ensure that both refrigerant and oil measurements remain accurate during operation.



7.5 Tank Pressure

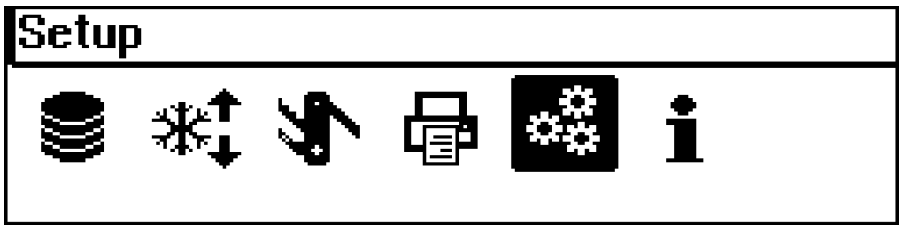


Pressure Check Procedure

When you select this function, the unit automatically measures the current pressure inside the internal tank using its built-in pressure sensor. This process is designed to periodically verify and compare the readings from the analog tank pressure gauge, helping to detect any unnoticed gauge malfunctions.

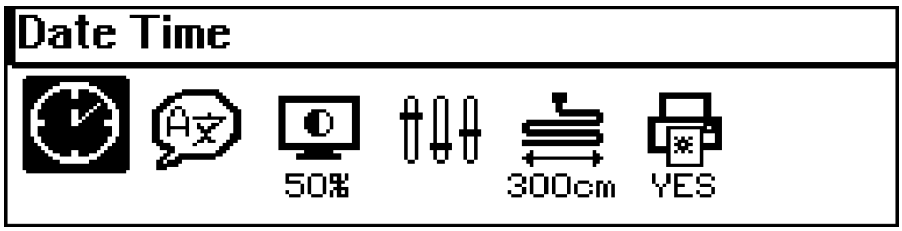
- To begin: Press ENTER. The unit will then display the pressure value detected by the internal sensor.
- Note: Due to minor pressure losses within the internal circuitry, the measured value may be slightly lower than the actual tank pressure.

8.0 Setup



The Set-up menu enables users to configure the service unit. Through this menu, you can adjust the internal clock, select the preferred language, and modify various parameters to fine-tune the operational phases.

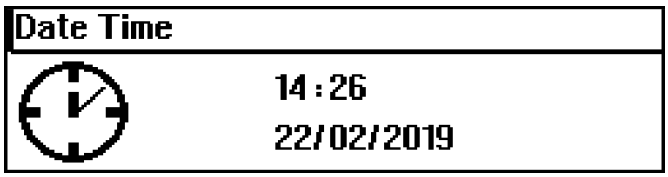
8.1 Date Time



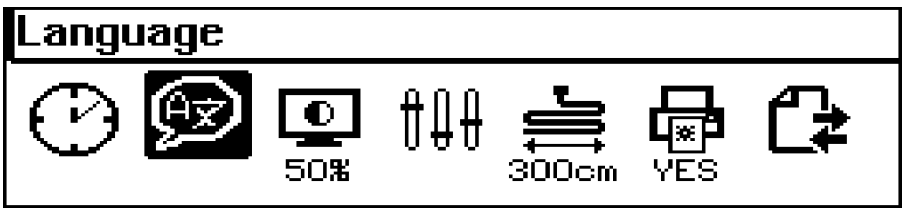
Setting the Current Date and Time

To adjust the current date and time:

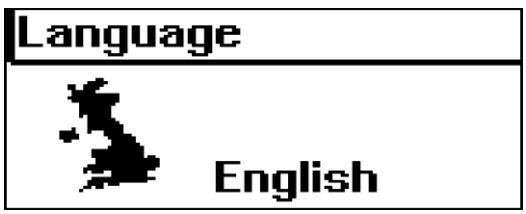
- Use the UP and DOWN buttons to increase or decrease the value.
- Press ENTER to confirm your selection and move to the next setting.



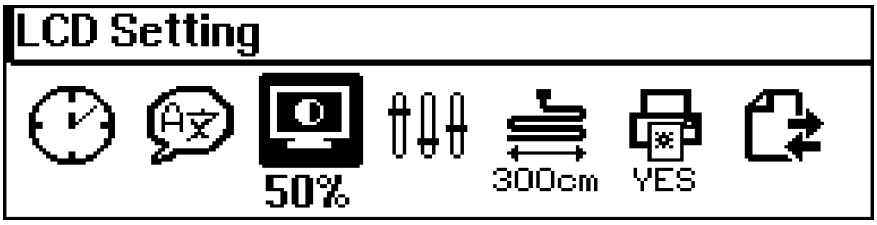
8.2 Language



Select the desired language for the unit, then press ENTER to confirm and exit the settings

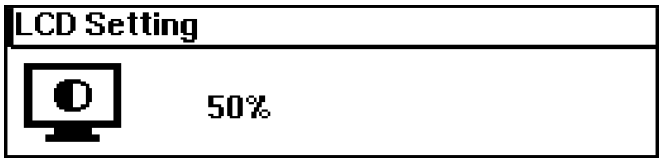


8.3 LCD Setting

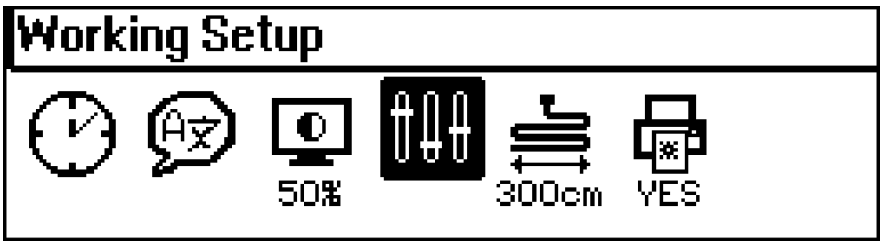


To adjust the LCD brightness or contrast:

- Use the UP and DOWN buttons to select your preferred brightness or contrast level.
- Press ENTER to confirm your selection and exit the settings menu.



8.4 Working Setup



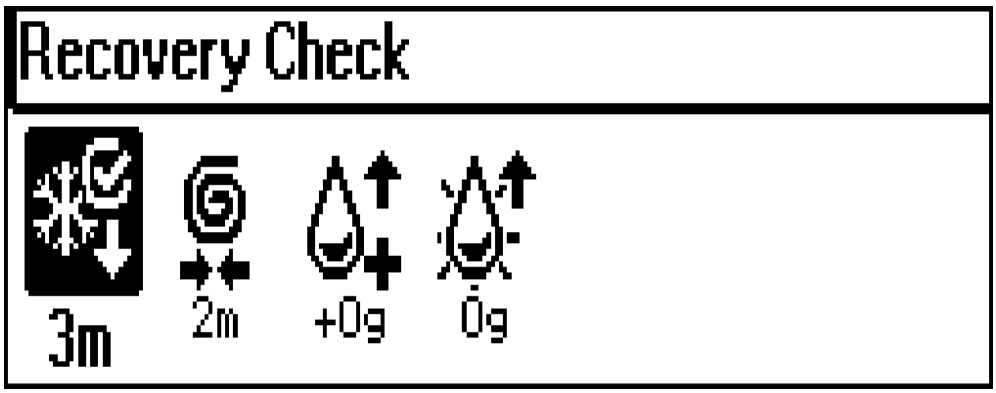
A/C Service Cycle Settings Overview

This menu provides a range of settings that enable you to customize the A/C service cycle according to your preferences.

- Adjusting these parameters will influence both the duration and accuracy of the service cycle.
- It is highly recommended to thoroughly review the following sections before making any changes to these settings.

Careful consideration will help ensure optimal performance and prevent unintended effects on your A/C system

8.4.1 Recovery Check

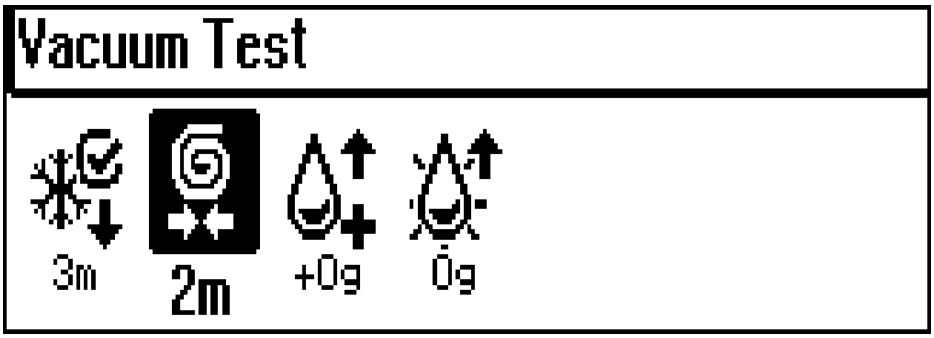


The RECOVERY cycle alternates between two phases:

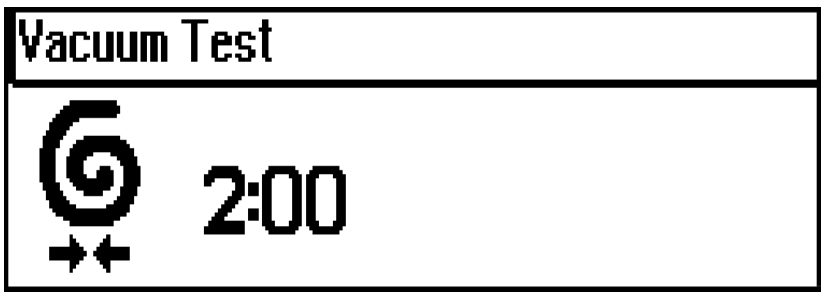
- **Active Recovery Phase:** The internal compressor is switched on, actively recovering refrigerant.
- **Check Phase:** The compressor is switched off while the system monitors for any increase in pressure.

If, during the CHECK phase, a pressure rise is detected after half of the designated period has passed, the compressor restarts to begin a new active recovery phase. This process continues, ensuring efficient refrigerant recovery and system monitoring.

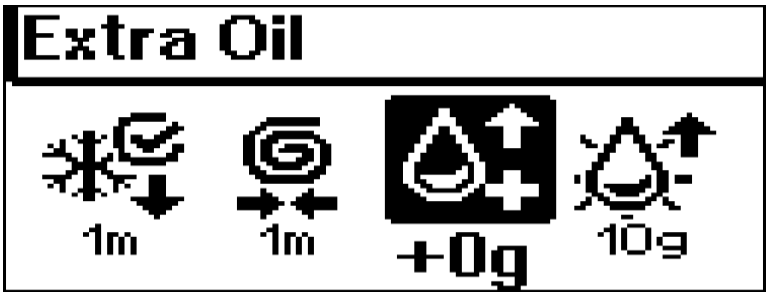
8.4.2 Vacuum Test



After completing a VACUUM cycle, a VACUUM TEST cycle can be performed automatically. This test monitors whether the vacuum pressure remains stable near 1000 mbar. If a significant increase in pressure is detected, the cycle will stop. The test duration is determined by a parameter: setting this parameter to zero will skip the test.



8.4.3 Extra Oil



Oil Management During A/C System Recovery

During a RECOVERY cycle, some oil present in the air conditioning A/C) system may be removed and collected as exhaust oil. To restore the correct oil level, the **EXTRA OIL** parameter is used to control both the method and amount of oil re-injected into the system.

Oil Refill Modes

There are two available modes for oil replenishment:

Automatic Weighted Mode

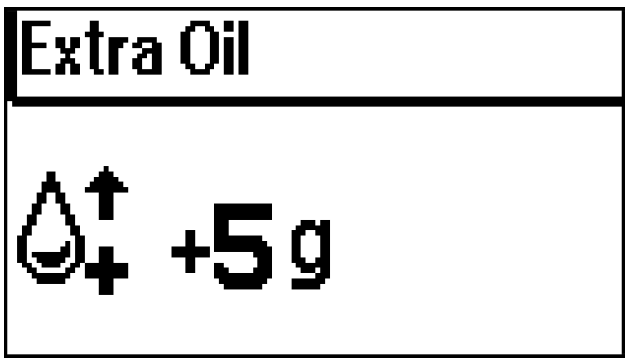
- This mode automatically injects the same amount of new oil as was drained during the recovery process.
- You can increase the refill amount by specifying an additional value. For example, entering +10g instructs the system to add 10 grams more than the amount that was removed.

Automatic Preset Mode

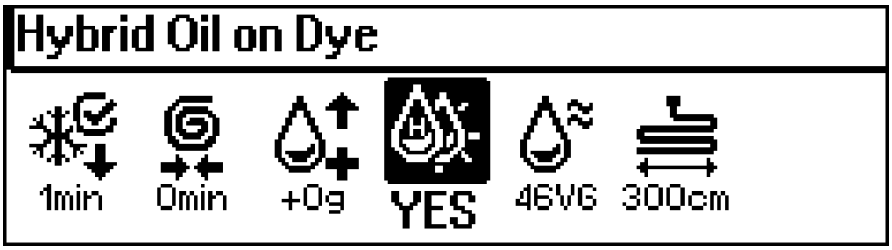
- This mode allows you to specify a fixed quantity of new oil to be added, regardless of how much oil was drained.
- To activate this mode, set the parameter to "X" and enter the desired oil quantity.

Mode	Description	How to set
Automatic weighted	Adds the amount drained, plus any specific extra (e.g. +10g)	Enter value (e.g. +10g)
Automatic preset	Adds a fixed amount, ignores drained quantity.	Set Parameter to "X"

This process ensures the A/C system maintains the correct oil level after a recovery cycle, optimizing system performance and longevity.



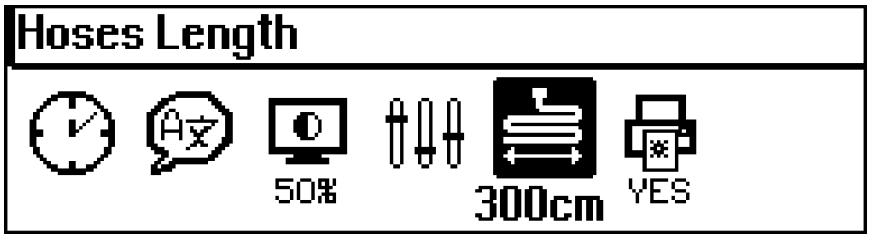
8.4.4 Hybrid Oil on Dye



This function enables the second bottle, which is typically used for UV dye injection, to be repurposed for injecting oil into hybrid and electric vehicles.

- If this parameter is set to **YES**, the UV dye injection feature is automatically disabled.
- Activating the Hybrid Oil on Dye function helps conserve hybrid oil and shortens the decontamination process

8.5 Hoses Length



<u>Configuring Charging Hose Length</u>

To set the length of the charging hoses currently in use:

- The default hose length is 3000 cm, but this value may differ depending on your specific unit model.
- Adjust the hose length setting to match the actual length of your hoses.

Important Notes

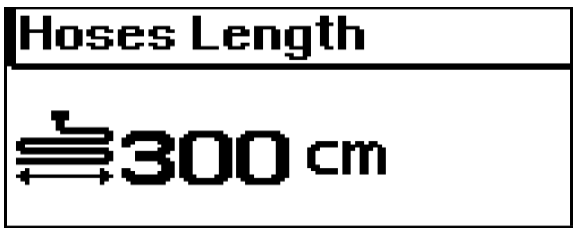
- **Correct Hose Length Set:** When the hose length is configured to the actual value, the unit will automatically calculate the amount of refrigerant remaining in the hoses after servicing. This residual refrigerant will then be recovered into the unit's internal tank.

- **Hose Length Set to "0":** If you set the hose length to "0", the unit will prompt you to recover any remaining refrigerant in the hoses back into the A/C system, rather than recovering it into the unit.

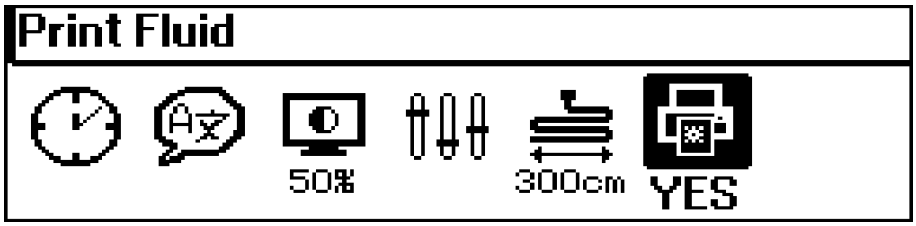
Summary Table

Hose Length Setting	Residual Refrigerant Handling
Actual hose Length	Automatically recovered into the internal tank
0	User is guided to recover residual back into the A/C system.

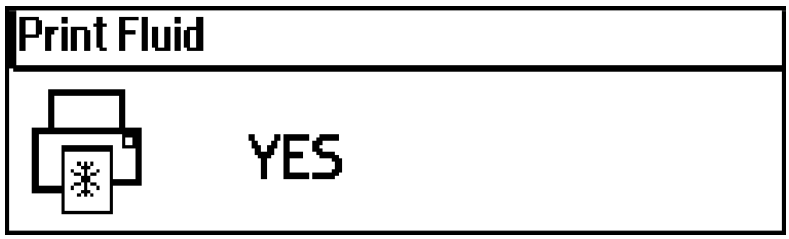
Ensure the hose length is set accurately for optimal refrigerant recovery and system performance.



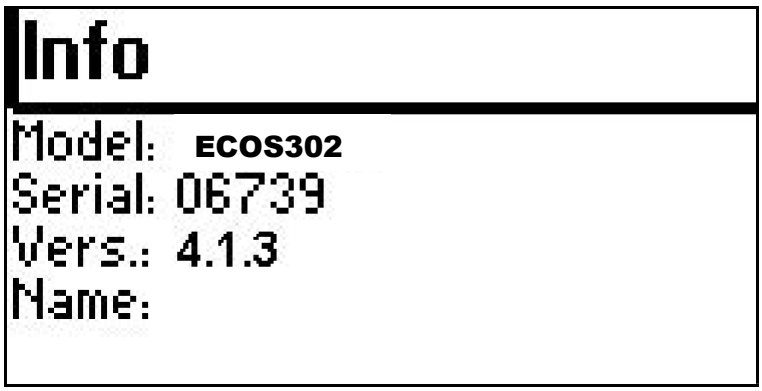
8.6 Print Fluid



This parameter sets whether the recovered refrigerant quantity from the vehicle's A/C system should be printed YES/NO. Press ENTER to confirm your selection.



8.7 Info



<u>Unit Information Menu</u>.

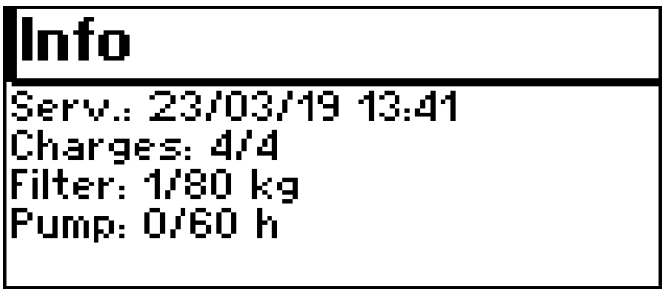
The menu displays detailed information about your unit, including:

- Model
- Serial number
- FW version
- Unit Name (of the unit to identify the station)

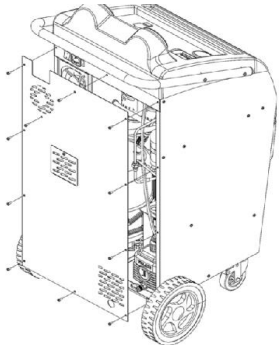
On the following page (press the INCREASE button to navigate):

- Bottle capacity
- Refrigerant in use

Ensure you check and record both the bottle capacity and the type of refrigerant currently in use on the new page.



9 Ordinary Maintenance



Maintenance Requirements

- Maintenance must be performed by an authorized service center to ensure the product warranty remains valid.
- The unit automatically logs service operations, tracking the operating hours of both the filters and the vacuum pump oil.
- Only qualified service personnel are permitted to reset these counters.

Dehydrating Filter Replacement

- Replace the dehydrating filter annually or whenever the unit indicates that replacement is necessary.
- Before replacing, recover any gas residues remaining in the charging hoses and the filter.
- Always use original replacement filters.

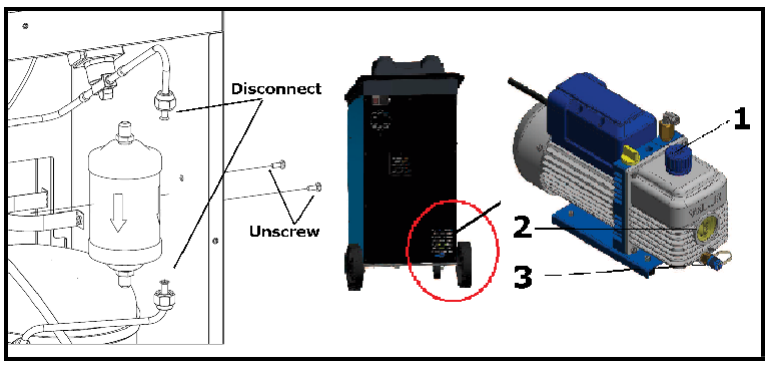
Important:

Install the filters following the flow direction indicated by the arrow marked on each filter (refer to the accompanying diagram for guidance).

VACUUM PUMP OIL

Oil Draining and Refilling Procedure

1. Open screws labeled as reference 1 and 3 to drain the oil from the pump.
2. Run the pump for a few seconds to ensure it drains completely.
3. Refill the pump with oil until it reaches the midpoint of the sight glass (reference 2.
4. Operate the pump briefly, then check the oil level in the sight glass.
5. If necessary, top up the oil to maintain the correct level.



10 Trouble Shooting

Issue	Cause & repair
Pressure sensor failure.	The reading of the main pressure sensor failed No operative procedure is allowed. An extraordinary maintenance intervention is mandatory.
Weak recovery!	The recovery to the internal tank is not working. The tank pressure is too high check for non-condensable gas and eventually provide to discharge. The refrigerant is iced inside the pipes wait for a convenient time before to try a new recovery.
Bottle load limit reached	The tank capacity is over. The current RECOVERY procedure has been broken, and no more RECOVERY are allowed. Provide to unload the internal tank with the connection to an external recovery device. For correct use of the equipment, the internal tank should be kept to half the nominal capacity This will grant to perform both RECOVERY and CHARGE procedures.
Replace the refrigerant filter.	The refrigerant dehydrating filter is expired Periodic maintenance is strongly recommended
Replace the vacuum pump oil.	The lubricant oil of the vacuum pump is expired. Periodic maintenance is strongly recommended.
Insufficient Gas	In the common working conditions, the unit requires that the internal tank contains a refrigerant quantity of least 5% of the nominal tank capacity. To perform a refrigerant refilling, an additional quantity is computed to compensate for the charge hoses capacity. Depending on the unit model, the CHARGE procedure requires the tank contains between 500g to 2500g of refrigerant.
Missing oil.	The unit seems not to be able to inject new oil during a OIL procedure. Check the presence of the oil bottle, the correct connection and quantity of contained oil.
Missing dye.	The unit seems not to be able to inject new dye during a DYE procedure. Check the presence of the oil bottle, the correct connection and quantity of contained dye.
Circuit under pressure.	The A/C system is under pressure. Some procedures like VACUUM and VACUUM TEST are denied. Provide the refrigerant from the A/C system before to proceed.
No Vacuum.	An insufficient vacuum level doesn't allow to inject in the new oil or dye. Perform a VACUUM procedure before to start OIL or DYE ones.
Inefficient hoses recovery by AC system.	The A/C system is expected to recover the refrigerant contained in the charge hoses The HP quick coupler shall be closed while the LP quick coupler shall be open. The vehicle engine is on as well as the A/C system that shall be set to the maximum power.

11. CE- Declaration

Oksys

CE

DECLARATION OF CONFORMITY

Declaration of Conformity

OKSYS s.r.l.
Via dell'Albereto 33B
50041 Calenzano (FI), Italy

Hereby declares that the following products:

- **ECOS302 IRC** (codes: SCE302R, SCE302H)
- **FAST302 IRC** (codes: SCF302R, SCF302H)
- **FAST322 IRC** (codes: SCF322R, SCF322H)
- **FAST342 IRC** (codes: SCF342R, SCF342H)
- **AGRICOLD302 IRC** (codes: SCG302R, SCG302H)
- **AGRILITE302 IRC** (codes: SCR302R, SCR302H)
- **HD302 IRC** (codes: SCH302R, SCH302H)

have been designed and manufactured in full compliance with the essential requirements set forth by the following European Community Directives:

- **Machinery Directive 2006/42/EU** (Safety of Machinery)
- **Low Voltage Directive 2014/35/EU** (Safety of Low-Voltage Electrical Equipment)
- **Electromagnetic Compatibility Directive 2014/30/EU** (EMC)

Harmonized Standards Applied

Conformity with the above directives is declared with reference to the following harmonized standards:

- CE2006/42
- EN 12100:2010
- EN 61010-1/A1:2019
- IEC 61326-1:2010
- EN 61326-1:2021

Additional Compliance

All machines are manufactured in accordance with the requirements of the **RoHS European Directive.**

Technical Documentation

In accordance with current regulations, a copy of the Technical File is available at the company's head office:

OKSYS s.r.l.
Via dell'Albereto 33D
50040 Calenzano (Florence), Italy

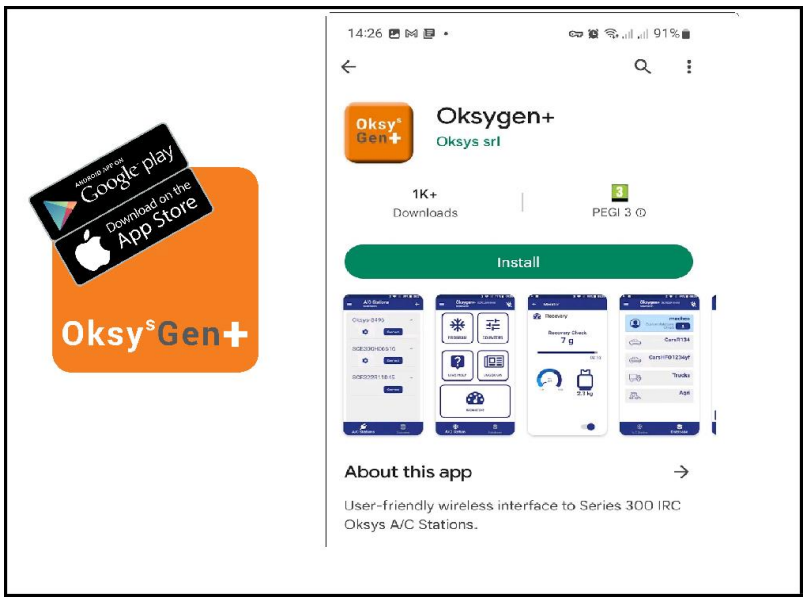
Calenzano, 10.01.2024

OKSYS S.R.L.
Via Dell'Albereto, 33B
50041 - Calenzano (FI) - ITALIA
P. IVA/Nl A.:IT 05015400480
Tel: +39 055 8900005 - Fax: +39 055 8900005
www.oksys.com - info@oksys.com

Stefano Poli

(Legale Rappresentante)

12. Oksygen+ APP Download.



How to Set Up the Oksygen+ App for 300 "IRC" Series Units

1. **Download the App**

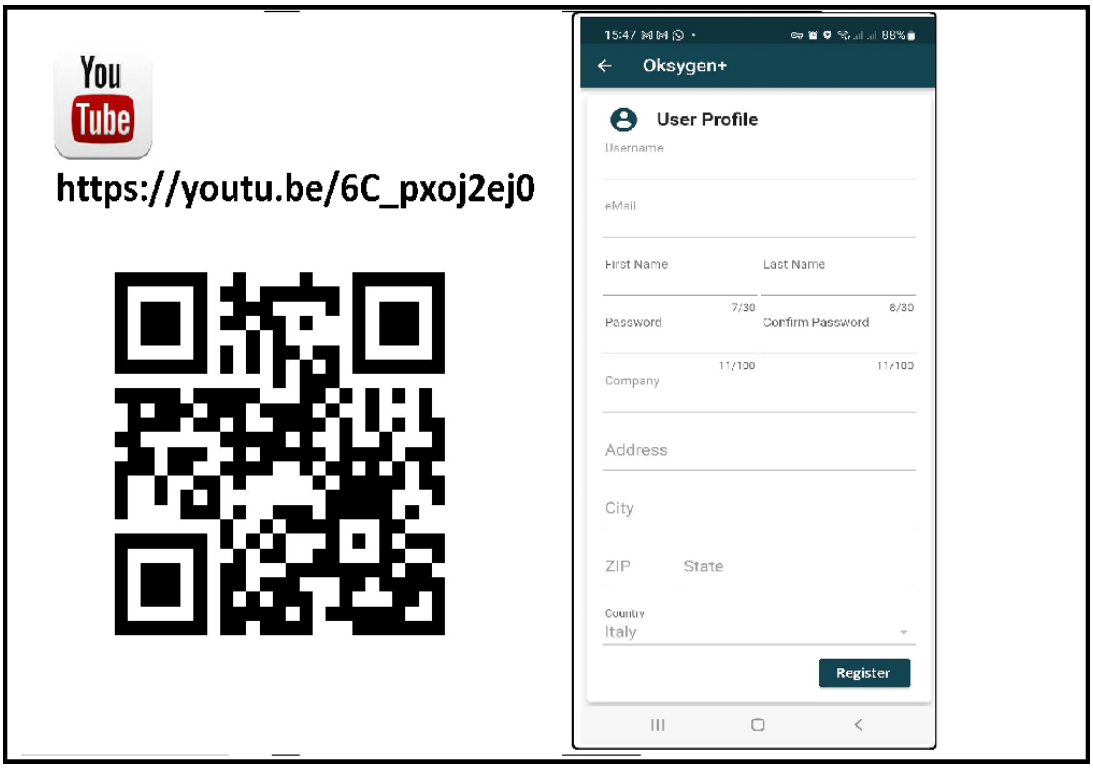
   - For Android devices: Search for "Oksygen+" on the Play Store and install the app.
   - For iOS devices: Find "Oksygen+" on the App Store and download it.

2. **Register Your Unit**

   - Open the Oksygen+ app after installation.
   - Register your account the first time you use the app.
   - Enter or scan your unit's Serial Number to link your device.
   - Fill in the required information to complete the registration process.

Once registered, you can remotely control your 300 "IRC" series unit and access its advanced features through the app.

12.0.1 Oksygen+ Registration



Steps to Set Up and Use the Oksygen+ App

1. **Complete User Profile and Registration**

   - Fill in all required fields in your user profile within the Oksygen+ App.
   - Review your information for accuracy.
   - Click on "Register User" to finalize your registration.

2. **Connect to the Unit**

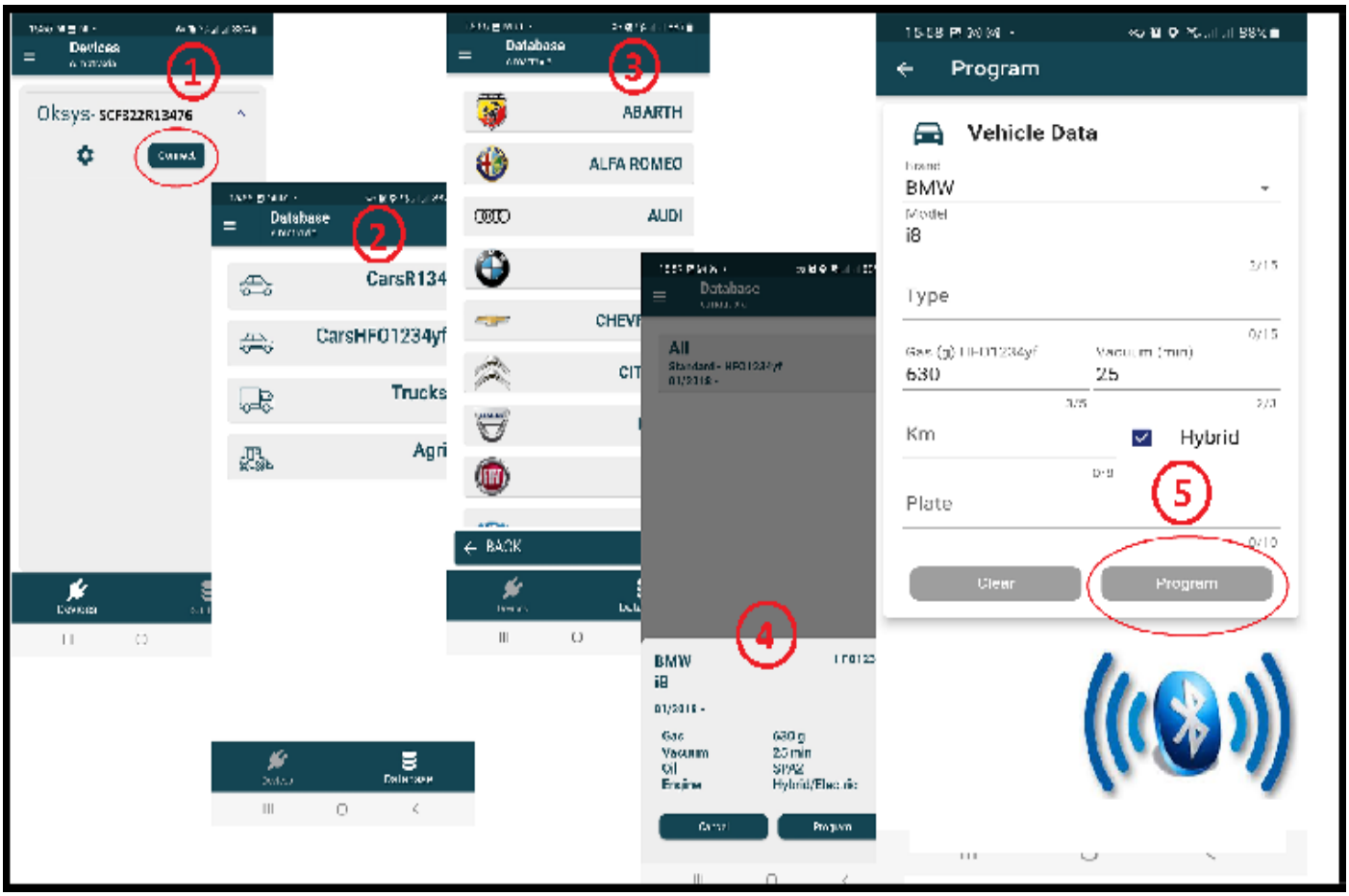
   - Ensure your device's Bluetooth or Wi-Fi (as required) is enabled.
   - Open the Oksygen+ App and follow the prompts to connect to your machine.
   - Confirm that the connection is successful before proceeding.

3. **Explore and Utilize App Features**

   - Navigate through the app's interface to access various features.
   - Use the app to:
     - Monitor and adjust machine settings.
     - View real-time data and usage statistics.
     - Access troubleshooting guides and support resources.
     - Set up notifications and reminders for maintenance or usage.
   - Experiment with different functionalities to optimize your experience and facilitate the use of the machine

Tips for Optimal Use

- Regularly update your app to access the latest features and improvements.
- Refer to the in-app help section for detailed instructions and FAQs.
- Contact customer support through the app if you encounter any issues


Devices
Oksys- SCF322R13476
Connect
Database
CarsR134
CarsHFO1234yf
Trucks
Agri
Database
ABARTH
ALFA ROMEO
AUDI
BACK
Database
All
BMW
i8
Program
Vehicle Data
BMW
i8
Type
630
25
Km
Hybrid
Plate
Clear
Program
1
2
3
4
5

Two-Year Warranty Statement

CPS Australia guarantees the Fast series machine against defects in materials, workmanship, and components for a period of two years from the original date of purchase. Should the equipment fail within this warranty period, all repair costs—including parts and labour—will be covered at no charge to the original owner. Warranty repairs must be performed either by CPS Australia or by an authorised CPS Australia service agent, following CPS Australia's instructions.

Warranty Limitations and Conditions

- The machine must be operated under normal conditions as outlined in the Owner's Manual.
- This warranty does **not** cover:
  - Damage caused by accidents.
  - Misuse, tampering, or modification of the machine.
  - Use of the machine for recovering or recycling substances other than the specified refrigerant type.
- Regular servicing and maintenance are required. This includes replacing vacuum pump oil and the refrigerant drier as recommended by the machine's reset counters. Consumable items such as hose gaskets and oil are excluded from warranty coverage.
- Warranty claims must be made within the three-year period and must be accompanied by proof of purchase from the original owner.
- All claims are subject to inspection and authorisation to confirm product defects.
- Equipment repaired under warranty will receive an additional, independent 90-day warranty.
- Transportation costs for warranty service may be the responsibility of the owner, depending on location.
- CPS Australia is not liable for incidental costs resulting from product failure, including but not limited to loss of work time, refrigerant loss, cross-contamination, or unauthorised shipping and labour charges.
- Use of the equipment with unauthorised refrigerants or sealants will void the warranty. Only refrigerants listed on the equipment are authorised.
- CPS Australia does not cover losses of refrigerant. Owners are advised to regularly leak-test the machine and store it with all valves closed.
- The warranty does not apply to machines that have been altered, misused, or require only routine field service maintenance.

Warranty is void if the machine is used for any purpose other than those specified.